1989
Joint Association
SURVEY ON DRILLING COSTS

SPONSORED BY:

- American Petroleum Institute
- Independent Petroleum Association of America
- Mid-Continent Oil & Gas Association

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

1989
Joint Association
SURVEY ON DRILLING COSTS

Finance, Accounting
and Statistics Department

American
Petroleum
Institute

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PREFACE

The purpose of the Joint Association Survey is to provide annual information pertaining to the cost of drilling oil and gas wells and dry holes in the United States.

As in prior years, data for the 1989 JAS were collected from the petroleum industry through the joint efforts of the American Petroleum Institute, the Independent Petroleum Association of America, and the Mid-Continent Oil and Gas Association.

Washington, D.C.
November 1990

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SUMMARY OF FINDINGS. Findings pertaining to 1989 drilling costs and activity in the United States may be summarized as follows:

- The **total cost** of drilling and equipping oil and gas wells and dry holes in 1989 amounted to approximately $9,669 million, a decrease of 8.4 percent from 1988.

- The **average depth of oil wells** completed in 1989 was 4,348 feet, a decrease of 3.1 percent; the **average cost per** foot in 1989 was $64.92, an increase of 4.2 percent from the previous year.

- The **average depth of gas wells** completed in 1989 was 5,270 feet, a decrease of 3.1 percent; the **average cost per foot** in 1989 was $86.86, an increase of 2.6 percent from the previous year.

- The **average depth of dry holes** drilled in 1989 was 5,256 feet, a decrease of 4 percent; the **average cost per foot** was $67.61, an increase of 1 percent from 1988.

- The **total number of wells drilled** in 1989 decreased 10.3 percent and the **total footage drilled** decreased 12.5 percent.

- The **total cost of offshore wells** completed in 1989 amounted to approximately $2,385 million, a decrease of 11.5 percent from 1988. The **total number of offshore wells** decreased 13.9 percent from 1988 while the **average depth** decreased 4.0 percent. The **average cost per foot** in 1989 was $308.90, an increase of 7 percent.

- The comparison of drilling activity and the cost of various types of wells completed in 1988 and 1989 is as follows:

	Oil Wells		Gas Wells	
	1988	1989	1988	1989
Wells Drilled	12,434	9,865	7,820	8,830
Footage Drilled (000)	55,781	42,895	42,522	46,538
Total Cost (millions)*	$3,474	$2,785	$3,600	$4,042
Average Depth (feet)	4,486	4,348	5,438	5,270
Average Cost Per Well*	$279,408	$282,273	$460,295	$457,790
Average Cost Per Foot*	$62.28	$64.92	$84.65	$86.86

	Dry Holes		Total Wells	
	1988	1989	1988	1989
Wells Drilled	9,487	7,998	29,741	26,693
Footage Drilled (000)	51,912	42,041	150,216	131,474
Total Cost (millions)*	$3,476	$2,842	$10,550	$9,669
Average Depth (feet)	5,472	5,256	5,051	4,925
Average Cost Per Well*	$366,381	$355,392	$354,713	$362,243
Average Cost Per Foot*	$66.96	$67.61	$70.23	$73.55

*Includes all costs incurred for drilling and equipping wells through the "Christmas tree."

NOTE: Totals may not agree with the sum of the individual items because of independent rounding.

DESCRIPTION OF SURVEY. The 1989 Joint Association Survey (JAS) contains information on drilling costs derived from a sample of wells, footage, and costs collected from operators of different sizes who drilled wells in various areas of the United States. The drilling costs reported are those incurred for drilling and equipping wells through the "Christmas tree."

Estimates of drilling costs were derived by combining sample data with the 1989 drilling statistics as compiled by the American Petroleum Institute (API) and the Committee on Statistics of Drilling of the American Association of Petroleum Geologists (AAPG-CSD). The procedures for preparing these estimates for the 1989 JAS are described in the following sections.

DEFINITIONS. Copies of the 1989 questionnaire, instructions, and definitions may be found in Appendixes B and C. Maps showing geographic subdivisions of Alaska, California, Louisiana, New Mexico, Texas, Offshore Federal Waters Alaska, Offshore Federal Waters Atlantic Coast, Offshore Federal Waters Gulf of Mexico-Northern, and Offshore Federal Waters Pacific Coast are shown in Appendix G.

THE 1989 UNIVERSE. In 1985, the American Petroleum Institute replaced its system of reporting well completions by month of report, (the Quarterly Review of Drilling Statistics), with a dynamic system of reporting wells by month of completion, (the Quarterly Completion Report). This change was instituted to correct the distortions in the data caused by the long lag time between the actual well completion and the reporting of the completion. As a result of these changes, there will be no "final" count of the survey year well completions until three to five years after the end of the survey year. The 1989 Joint Association Survey universe of wells is comprised of all wells reported to the American Petroleum Institute by Petroleum Information Corporation and by respondent operators through 9/7/90 as having been completed during calendar year 1989. In prior years, survey year wells were added to the universe through the end of September of the publishing year to capture as many well completions as possible. However, as the number of additional wells reported during September has been relatively small, it was decided that earlier publication of the drilling cost estimates was of greater value than the additional wells added to the universe.

As the actual total number of well completions in any survey year is unknown for several years due to the lag in reporting, the API makes estimates of the number of total completions based on historic reporting patterns. The estimate of total well completions for 1989 based on reports received through the end of September, 1990 was 29,109 as compared to the 26,693 wells contained in the 1989 JAS universe.

THE 1989 SAMPLE. As in previous years, questionnaires were mailed to operators which were recorded as having drilled wells in the different areas of the United States during 1989. Replies to the Survey were contingent upon voluntary responses, with a continued effort being made to increase the sample size, particularly with respect to the smaller operators. An analysis of the number of companies (operators), classified by the number of wells drilled, included in the sample for the years 1985-1989 is shown in Appendix F.

The number of oil wells, gas wells, and dry holes reported to the JAS in 1988 and 1989 as percentages of total wells drilled in each of the six selected states is as follows:

Percent of Total

	Oil Wells		Gas Wells		Dry Holes	
	1988	1989	1988	1989	1988	1989
California	82	87	52	40	60	34
Kansas	33	27	63	63	35	35
Louisiana	52	64	61	58	52	45
New Mexico	66	60	82	62	63	41
Oklahoma	38	29	50	40	46	35
Texas	52	42	51	49	38	34

The following tabulation shows the total number of wells and footage reported to the JAS in 1988 and 1989 as compared to the wells and footage which comprised the JAS drilling universe for these two years.

	1988 Survey			1989 Survey		
	Total	Sample	Percent of Total	Total	Sample	Percent of Total
Oil Wells	12,434	6,234	50.1	9,865	4,590	46.5
Footage (thousands)	55,781	30,420	54.5	42,895	21,290	49.6
Total Cost (millions)	$3,474	$2,054	59.1	$2,785	$1,613	57.9
Gas Wells	7,820	3,675	47.0	8,830	3,930	44.5
Footage (thousands)	42,522	22,880	53.8	46,538	22,602	48.6
Total Cost (millions)	$3,600	$2,274	63.2	$4,042	$2,216	54.8
Dry Holes	9,487	4,085	43.1	7,998	2,838	35.5
Footage (thousands)	51,912	27,711	53.4	42,041	18,129	43.1
Total Cost (millions)	$3,476	$2,273	65.4	$2,842	$1,513	53.2
Total Wells	29,741	13,994	47.1	26,693	11,358	42.6
Footage (thousands)	150,216	81,010	53.9	131,474	62,021	47.2
Total Cost (millions)	$10,550	$6,601	62.6	$9,669	$5,341	55.2

NOTE: Totals may not agree with the sum of the individual items because of independent rounding.

DETERMINATION OF UNREPORTED WELLS AND FOOTAGE. Individual wells (and footage) derived by adjustment of QCR data were classified according to type of well (oil, gas or dry), location, and depth. Individual wells reported to the JAS were classified in like manner. The wells and footage reported to the JAS in each category were subtracted from the number of wells and footage in corresponding categories for the adjusted universe. The difference represented the unreported wells and footage by type of well, location, and depth interval.

ESTIMATION OF TOTAL COSTS. The average cost per foot drilled in each category was computed on the basis of information reported to the JAS. Based on the sample wells reported for each area, least squares regression analysis was used to determine the functional relationship between the cost per foot and well depth for each type of well. (See Appendix H for a description of the methodology.)

The cost per foot for the unreported wells in each category was then estimated from the least squares analysis for each area. For the relatively few unreported wells falling outside the depth range of the sample, for which regression analysis did not provide meaningful estimates, cost estimates were based on an analysis of costs in similar areas and of prior years' data. This was necessary for approximately .4 percent of all unreported wells.

The cost per foot for the unreported wells was then multiplied by the unreported footage in each depth range to obtain the unreported cost for each category. Total estimated expenditures were obtained by adding the reported costs to estimated unreported costs.

FINDINGS FOR 1989. Cost data are shown in Tables 1-53 for the Total United States, Total Onshore United States, and Total Offshore United States as well as for Offshore Federal Waters and Gulf of Mexico-Northern.

Those wells drilled in the Atlantic Coast Federal Waters, Alaska Federal Waters, and Pacific Coast Federal Waters are not shown separately to avoid disclosure of proprietary data, but are included in Table 52, "Offshore Federal Waters" on page 58. However, total wells, footage, and costs for these areas are shown in Table 1.

In addition, expenditures are reported for the individual states and for the subdivisions of Alaska, California, Louisiana, New Mexico, and Texas.

SUMMARY OF SAMPLE DATA FOR 1989. Additional information concerning the cost of exploratory, development, single completion, and multiple completion wells as reported to the Joint Association

Survey is summarized for the United States in Appendixes D and E.

Sample data in these four categories, summarized by depth intervals for individual states, may be purchased from the American Petroleum Institute on magnetic tape or in the form of a computer listing. Data in either format are summarized to the extent necessary to avoid disclosure of individual well costs.

Requests for price quotations should be directed to: the Manager, Exploration and Production Statistics, Finance, Accounting, and Statistics Department, American Petroleum Institute, 1220 L Street, Northwest, Washington, D.C. 20005. (Note: Orders will be accepted only for the complete summary.)

TABLES CONTAINING FINDINGS

Please note that the average depth and cost per well have not been rounded upward on the following tables.

Table 1

TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND ESTIMATED DRILLING

STATE	OIL WELLS			GAS WELLS		
	WELLS DRILLED	TOTAL FOOTAGE	COST	WELLS DRILLED	TOTAL FOOTAGE	COST
ALABAMA	17	165,689	11,622,817	391	844,518	58,148,708
ALASKA - ONSHORE	93	966,734	266,461,652	1	4,860	842,531
ALASKA - OFFSHORE	7	76,408	38,970,071	1	7,450	1,100,080
ALASKA - TOTAL	100	1,043,142	305,431,723	2	12,310	1,942,611
ARKANSAS	33	150,521	5,084,413	129	574,654	40,817,656
CALIFORNIA - NORTH	2	8,602	1,013,115	54	331,950	23,114,014
CALIFORNIA -CENTRAL COASTAL	31	169,664	18,481,927	1	6,306	662,259
CALIFORNIA - EAST CENTRAL	1,348	2,575,222	225,893,091	11	69,492	7,008,197
CALIFORNIA - SOUTH	28	96,553	6,905,413	1	94	12,351
CALIFORNIA - OFFSHORE	17	120,097	36,917,551	--	--	--
CALIFORNIA - TOTAL	1,426	2,970,138	289,211,097	67	407,842	30,796,821
COLORADO	105	614,147	20,013,915	472	2,555,973	159,160,129
FLORIDA	1	15,735	3,592,027	--	--	--
ILLINOIS	322	731,205	24,237,420	45	26,386	1,365,187
INDIANA	62	78,226	1,730,866	10	10,992	190,961
KANSAS	853	2,356,270	60,776,414	601	1,893,762	84,673,887
KENTUCKY	200	301,566	8,064,213	394	1,108,413	49,815,283
LOUISIANA - NORTH	146	554,370	22,518,114	272	1,407,093	102,364,622
LOUISIANA - SOUTH	115	951,934	98,523,368	118	1,491,094	298,270,888
LOUISIANA - OFFSHORE	110	1,197,900	309,954,194	132	1,402,819	400,732,971
LOUISIANA - TOTAL	371	2,704,204	430,995,676	522	4,301,006	801,368,481
MICHIGAN	50	236,724	13,234,735	614	1,294,443	127,242,848
MISSISSIPPI *	72	753,642	50,861,188	52	398,941	41,636,536
MONTANA	29	170,554	11,539,067	127	202,797	7,695,452
NEBRASKA	30	170,657	4,679,860	8	31,776	403,952
NEW MEXICO - EAST	272	1,800,092	111,526,481	107	759,482	53,671,093
NEW MEXICO - WEST	67	376,868	20,721,013	310	1,066,732	91,482,890
NEW MEXICO - TOTAL	339	2,176,960	132,247,494	417	1,826,214	145,153,983
NORTH DAKOTA	104	998,582	76,971,384	3	42,642	4,024,474
OKLAHOMA	987	4,436,540	242,037,500	872	6,355,722	578,408,027
TEXAS RRC DIST. 1	310	1,057,971	45,087,578	84	453,387	36,726,871
TEXAS RRC DIST. 2	66	322,895	12,025,065	179	1,138,661	73,427,378
TEXAS RRC DIST. 3	157	1,006,650	61,371,771	156	1,375,667	161,185,454
TEXAS RRC DIST. 4	106	612,352	22,832,113	424	3,736,463	390,270,630
TEXAS RRC DIST. 5	74	179,052	9,622,328	49	498,072	40,249,452
TEXAS RRC DIST. 6	108	664,699	42,287,376	313	2,877,384	282,398,380
TEXAS RRC DIST. 7B	496	1,563,925	47,289,238	146	439,539	11,622,425
TEXAS RRC DIST. 7C	324	1,900,147	81,573,697	177	1,165,950	48,570,495
TEXAS RRC DIST. 8	904	5,685,954	310,524,972	59	355,392	31,059,112
TEXAS RRC DIST. 8A	487	2,774,151	105,561,482	2	12,977	419,796
TEXAS RRC DIST. 9	467	1,518,306	46,620,885	105	636,174	29,730,952
TEXAS RRC DIST. 10	120	607,126	30,958,855	97	786,385	53,374,195
TEXAS - OFFSHORE	4	36,473	7,676,601	78	705,891	248,372,629
TEXAS - TOTAL	3,623	17,929,701	823,431,961	1,869	14,181,942	1,407,407,769
UTAH	41	256,928	21,970,629	16	70,213	4,196,294
WYOMING	166	966,511	69,205,337	164	1,317,708	138,106,314
APPALACHIAN **	872	3,284,416	79,276,587	2,007	8,818,392	307,567,832
OFFSHORE FED. - ALASKA	--	--	--	--	--	--
OFFSHORE FED. - ATLANTIC	--	--	--	--	--	--
OFFSHORE FED. - GULF NORTH	16	205,461	76,319,709	12	140,499	45,561,053
OFFSHORE FED. - PACIFIC	4	40,623	12,131,856	--	--	--
OFFSHORE FED - TOTAL	20	246,084	88,451,565	12	140,499	45,561,053
OTHER UNITED STATES ***	42	137,300	9,957,108	36	121,203	6,604,841
TOTAL OFFSHORE	158	1,676,962	481,969,982	223	2,256,659	695,766,733
TOTAL ONSHORE	9,707	41,218,480	2,302,655,014	8,607	44,281,689	3,346,522,366
TOTAL U.S.	9,865	42,895,442	2,784,624,996	8,830	46,538,348	4,042,289,099
EXPLORATORY WELLS	586	3,617,809	242,249,955	726	4,613,468	553,087,523
DEVELOPMENT WELLS	9,279	39,277,633	2,542,375,041	8,104	41,924,880	3,489,201,576

* Includes a well for Mississippi Offshore.
** Includes New York, Ohio, Pennsylvania, and West Virginia.
** Includes Iowa, Missouri, Nevada, Oregon, South Dakota, Tennessee, Virginia, and Washington.

COSTS FOR OIL AND GAS WELLS, AND DRY HOLES, BY STATE - 1989

Table 1

DRY HOLES			TOTAL WELLS			
WELLS DRILLED	TOTAL FOOTAGE	COST	WELLS DRILLED	TOTAL FOOTAGE	COST	STATE
112	644,130	31,592,466	520	1,654,337	101,363,991	ALABAMA
4	34,596	9,468,241	98	1,006,190	276,772,424	ALASKA - ONSHORE
1	11,190	13,722,112	9	95,048	53,792,263	ALASKA - OFFSHORE
5	45,786	23,190,353	107	1,101,238	330,564,687	ALASKA - TOTAL
152	697,824	20,031,897	314	1,422,999	65,933,966	ARKANSAS
76	443,561	20,863,154	132	784,113	44,990,283	CALIFORNIA - NORTH
11	80,056	10,478,642	43	256,026	29,622,828	CALIFORNIA -CENTRAL COASTAL
61	367,418	26,390,340	1,420	3,012,132	259,291,628	CALIFORNIA - EAST CENTRAL
6	52,805	2,496,065	35	149,452	9,413,829	CALIFORNIA - SOUTH
6	58,995	34,599,608	23	179,092	71,517,159	CALIFORNIA - OFFSHORE
160	1,002,835	94,827,809	1,653	4,380,815	414,835,727	CALIFORNIA - TOTAL
312	1,717,818	26,755,119	889	4,887,938	205,929,163	COLORADO
9	130,775	7,003,226	10	146,510	10,595,253	FLORIDA
418	795,767	13,895,146	785	1,553,358	39,497,753	ILLINOIS
103	149,624	2,037,039	175	238,842	3,958,866	INDIANA
1,034	3,908,590	56,628,684	2,488	8,158,622	202,078,985	KANSAS
305	445,640	7,365,093	899	1,855,619	65,244,589	KENTUCKY
304	1,456,926	30,792,690	722	3,418,389	155,675,426	LOUISIANA - NORTH
264	3,032,032	301,447,429	497	5,475,060	698,241,685	LOUISIANA - SOUTH
194	1,977,559	425,124,201	436	4,578,278	1,135,811,366	LOUISIANA - OFFSHORE
762	6,466,517	757,364,320	1,655	13,471,727	1,989,728,477	LOUISIANA - TOTAL
167	911,658	70,302,704	831	2,442,825	210,780,287	MICHIGAN
163	1,315,419	89,547,079	287	2,468,002	182,044,803	MISSISSIPPI *
70	337,139	14,577,493	226	710,490	33,812,012	MONTANA
67	338,920	5,660,770	105	541,353	10,744,582	NEBRASKA
93	658,840	33,583,656	472	3,218,414	198,781,230	NEW MEXICO - EAST
27	84,609	3,286,869	404	1,528,209	115,490,772	NEW MEXICO - WEST
120	743,449	36,870,525	876	4,746,623	314,272,002	NEW MEXICO - TOTAL
71	513,574	20,223,322	178	1,554,798	101,219,180	NORTH DAKOTA
820	4,321,244	203,419,123	2,679	15,113,506	1,023,864,650	OKLAHOMA
196	678,625	15,281,010	590	2,189,983	97,095,459	TEXAS RRC DIST. 1
210	1,327,317	65,894,170	455	2,788,873	151,346,613	TEXAS RRC DIST. 2
289	2,261,940	125,718,858	602	4,644,257	348,276,083	TEXAS RRC DIST. 3
228	1,589,930	103,766,411	758	5,938,745	516,869,154	TEXAS RRC DIST. 4
94	472,540	14,411,459	217	1,149,664	64,283,239	TEXAS RRC DIST. 5
131	887,414	33,533,006	552	4,429,497	358,218,762	TEXAS RRC DIST. 6
493	1,419,936	21,511,864	1,135	3,423,400	80,423,527	TEXAS RRC DIST. 7B
163	725,308	22,191,372	664	3,791,405	152,335,564	TEXAS RRC DIST. 7C
133	842,498	37,239,202	1,096	6,883,844	378,823,286	TEXAS RRC DIST. 8
146	976,409	31,361,551	635	3,763,537	137,342,829	TEXAS RRC DIST. 8A
346	1,187,055	19,332,561	918	3,341,535	95,684,398	TEXAS RRC DIST. 9
87	648,273	26,956,263	304	2,041,784	111,289,313	TEXAS RRC DIST. 10
78	763,684	178,445,749	160	1,506,048	434,494,979	TEXAS - OFFSHORE
2,594	13,780,929	695,643,476	8,086	45,892,572	2,926,483,206	TEXAS - TOTAL
24	139,882	15,798,348	81	467,023	41,965,271	UTAH
231	1,812,857	64,217,118	561	4,097,076	271,528,769	WYOMING
151	602,868	16,293,668	3,030	12,705,676	403,138,087	APPALACHIAN **
1	10,000	56,250,884	1	10,000	56,250,884	OFFSHORE FED. - ALASKA
--	--	--	--	--	--	OFFSHORE FED. - ATLANTIC
83	929,684	462,002,590	111	1,275,644	583,883,352	OFFSHORE FED. - GULF NORTH
1	13,132	4,320,953	5	53,755	16,452,809	OFFSHORE FED. - PACIFIC
85	952,816	522,574,427	117	1,339,399	656,587,045	OFFSHORE FED - TOTAL
63	264,542	46,605,782	141	523,045	63,167,731	OTHER UNITED STATES ***
365	3,787,744	1,207,389,367	746	7,721,365	2,385,126,082	TOTAL OFFSHORE
7,633	38,252,859	1,635,035,620	25,947	123,753,028	7,284,213,000	TOTAL ONSHORE
7,998	42,040,603	2,842,424,987	26,693	131,474,393	9,669,339,082	TOTAL U.S.
3,887	21,888,816	1,614,526,442	5,199	30,120,093	2,409,863,920	EXPLORATORY WELLS
4,111	20,151,787	1,227,898,545	21,494	101,354,300	7,259,475,162	DEVELOPMENT WELLS

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 2

TOTAL UNITED STATES--1989*

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		1,433	451	888	2,772				
FOOTAGE	0 - 1,249	1,211,578	387,652	636,962	2,236,192	845	860	717	807
COSTS $		62,156,613	19,219,612	11,183,412	92,559,637	43,375	42,616	12,594	33,391
WELLS		1,951	1,643	1,064	4,658				
FOOTAGE	1,250 - 2,499	3,475,919	2,965,264	1,981,901	8,423,084	1,782	1,805	1,863	1,808
COSTS $		165,542,505	152,966,670	40,188,183	358,697,358	84,850	93,102	37,771	77,007
WELLS		1,622	1,658	1,180	4,460				
FOOTAGE	2,500 - 3,749	5,042,112	5,137,897	3,698,894	13,878,903	3,109	3,099	3,135	3,112
COSTS $		204,377,395	270,902,781	87,488,123	562,768,299	126,003	163,391	74,142	126,181
WELLS		1,542	1,126	1,362	4,030				
FOOTAGE	3,750 - 4,999	6,853,811	4,914,717	5,922,234	17,690,762	4,445	4,365	4,348	4,390
COSTS $		252,459,804	229,615,561	130,044,236	612,119,601	163,722	203,921	95,480	151,891
WELLS		1,654	1,882	1,691	5,227				
FOOTAGE	5,000 - 7,499	9,985,041	11,401,255	10,261,878	31,648,174	6,037	6,058	6,069	6,055
COSTS $		467,598,985	547,444,588	325,244,262	1,340,287,835	282,708	290,884	192,338	256,416
WELLS		1,090	1,108	882	3,080				
FOOTAGE	7,500 - 9,999	9,408,093	9,681,837	7,563,394	26,653,324	8,631	8,738	8,575	8,654
COSTS $		634,001,638	858,513,027	451,623,959	1,944,138,624	581,653	774,831	512,045	631,214
WELLS		369	552	486	1,407				
FOOTAGE	10,000 - 12,499	4,104,879	6,091,630	5,407,643	15,604,152	11,124	11,036	11,127	11,090
COSTS $		510,549,711	721,937,730	605,855,597	1,838,343,038	1,383,604	1,307,858	1,246,617	1,306,569
WELLS		178	290	289	757				
FOOTAGE	12,500 - 14,999	2,394,393	3,944,991	3,935,121	10,274,505	13,452	13,603	13,616	13,573
COSTS $		360,095,612	646,396,291	517,281,232	1,523,773,135	2,023,009	2,228,953	1,789,901	2,012,910
WELLS		23	89	116	228				
FOOTAGE	15,000 - 17,499	363,629	1,415,494	1,869,723	3,648,846	15,810	15,904	16,118	16,004
COSTS $		109,910,064	346,119,015	398,507,675	854,536,754	4,778,699	3,888,978	3,435,411	3,747,968
WELLS		3	25	30	58				
FOOTAGE	17,500 - 19,999	55,987	460,778	545,615	1,062,380	18,662	18,431	18,187	18,317
COSTS $		17,932,669	169,678,431	131,717,854	319,328,954	5,977,557	6,787,137	4,390,595	5,505,672
WELLS		--	6	10	16				
FOOTAGE	20,000 & OVER	--	136,833	217,238	354,071	--	22,806	21,724	22,129
COSTS $		--	79,495,393	143,290,454	222,785,847	--	13,249,232	14,329,045	13,924,115
TOTAL WELLS		9,865	8,830	7,998	26,693				
TOTAL FOOTAGE		42,895,442	46,538,348	42,040,603	131,474,393	4,348	5,270	5,256	4,925
TOTAL COSTS $		2,784,624,996	4,042,289,099	2,842,424,987	9,669,339,082	282,273	457,790	355,392	362,243

* Includes the following states and areas which are not shown separately: Iowa, Offshore Mississippi, Missouri, Nevada, Oregon, South Dakota, Tennessee, Virginia, Washington, Offshore Federal Waters-Alaska, and Offshore Federal Waters-Pacific Coast

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 3

TOTAL OFFSHORE*

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
	WELLS	--	1	--	1				
0 - 1,249	FOOTAGE	--	1,111	--	1,111				
	COSTS $	--	3,195,680	--	3,195,680	--	1,111	--	1,111
						--	3,195,680	--	3,195,680
	WELLS	1	3	4	8				
1,250 - 2,499	FOOTAGE	1,875	5,850	7,386	15,111	1,875	1,950	1,847	1,889
	COSTS $	4,152,005	5,032,528	2,116,817	11,301,350	4,152,005	1,677,509	529,204	1,412,669
	WELLS	2	--	13	15				
2,500 - 3,749	FOOTAGE	6,905	--	40,110	47,015	3,453	--	3,085	3,134
	COSTS $	943,771	--	12,354,638	13,298,409	471,886	--	950,357	886,561
	WELLS	7	15	13	35				
3,750 - 4,999	FOOTAGE	31,333	65,680	56,488	153,701	4,476	4,392	4,345	4,391
	COSTS $	5,543,978	26,047,861	11,548,185	43,140,024	791,997	1,736,524	888,322	1,232,572
	WELLS	19	27	42	88				
5,000 - 7,499	FOOTAGE	122,306	174,798	276,054	573,158	6,437	6,474	6,573	6,513
	COSTS $	30,328,115	48,010,892	68,650,540	146,989,547	1,596,217	1,778,181	1,634,537	1,670,336
	WELLS	37	69	101	207				
7,500 - 9,999	FOOTAGE	328,136	618,478	886,865	1,833,479	8,869	8,963	8,781	8,857
	COSTS $	74,110,681	168,944,282	204,492,840	447,547,803	2,002,991	2,448,468	2,024,682	2,162,067
	WELLS	45	49	97	191				
10,000 - 12,499	FOOTAGE	506,623	545,251	1,082,193	2,134,067	11,258	11,128	11,157	11,173
	COSTS $	138,905,675	148,730,941	342,685,294	630,321,910	3,086,793	3,035,325	3,532,838	3,300,115
	WELLS	34	45	56	135				
12,500 - 14,999	FOOTAGE	467,151	617,812	765,044	1,850,007	13,740	13,729	13,662	13,704
	COSTS $	129,313,303	214,297,050	233,455,396	577,065,749	3,803,333	4,762,157	4,168,846	4,274,561
	WELLS	11	12	31	54				
15,000 - 17,499	FOOTAGE	175,328	188,841	504,300	868,469	15,939	15,737	16,268	16,083
	COSTS $	82,191,507	59,730,391	196,349,050	338,270,948	7,471,955	4,977,533	6,333,841	6,264,277
	WELLS	2	2	3	7				
17,500 - 19,999	FOOTAGE	37,305	38,638	54,022	129,965	18,653	19,319	18,007	18,566
	COSTS $	16,480,947	21,777,108	31,255,993	69,514,048	8,240,474	10,888,554	10,418,664	9,930,578
	WELLS	--	--	5	5				
20,000 & OVER	FOOTAGE	--	--	115,282	115,282	--	--	23,056	23,056
	COSTS $	--	--	104,480,614	104,480,614	--	--	20,896,123	20,896,123
TOTAL WELLS		158	223	365	746				
TOTAL FOOTAGE		1,676,962	2,256,659	3,787,744	7,721,365	10,614	10,120	10,377	10,350
TOTAL COSTS $		481,969,982	695,766,733	1,207,389,367	2,385,126,082	3,050,443	3,120,030	3,307,916	3,197,220

* Includes Offshore Mississippi, Offshore Federal Waters-Alaska, and Offshore Federal Waters-Pacific Coast.

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 4

TOTAL ONSHORE*

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		1,433	450	888	2,771				
FOOTAGE	0 - 1,249	1,211,578	386,541	636,962	2,235,081	845	859	717	807
COSTS $		62,156,613	16,023,932	11,183,412	89,363,957	43,375	35,609	12,594	32,250
WELLS		1,950	1,640	1,060	4,650				
FOOTAGE	1,250 - 2,499	3,474,044	2,959,414	1,974,515	8,407,973	1,782	1,805	1,863	1,808
COSTS $		161,390,500	147,934,142	38,071,366	347,396,008	82,764	90,204	35,916	74,709
WELLS		1,620	1,658	1,167	4,445				
FOOTAGE	2,500 - 3,749	5,035,207	5,137,897	3,658,784	13,831,888	3,108	3,099	3,135	3,112
COSTS $		203,433,624	270,902,781	75,133,485	549,469,890	125,576	163,391	64,382	123,615
WELLS		1,535	1,111	1,349	3,995				
FOOTAGE	3,750 - 4,999	6,822,478	4,848,837	5,865,746	17,537,061	4,445	4,364	4,348	4,390
COSTS $		246,915,826	203,567,700	118,496,051	568,979,577	160,857	183,229	87,840	142,423
WELLS		1,635	1,855	1,649	5,139				
FOOTAGE	5,000 - 7,499	9,862,735	11,226,457	9,985,824	31,075,016	6,032	6,052	6,056	6,047
COSTS $		437,270,870	499,433,696	256,593,722	1,193,298,288	267,444	269,237	155,606	232,204
WELLS		1,053	1,039	781	2,873				
FOOTAGE	7,500 - 9,999	9,079,957	9,063,359	6,676,529	24,819,845	8,623	8,723	8,549	8,639
COSTS $		559,890,957	689,568,745	247,131,119	1,496,590,821	531,710	663,685	316,429	520,916
WELLS		324	503	389	1,216				
FOOTAGE	10,000 - 12,499	3,598,256	5,546,379	4,325,450	13,470,085	11,106	11,027	11,119	11,077
COSTS $		371,644,036	573,206,789	263,170,303	1,208,021,128	1,147,050	1,139,576	676,530	993,438
WELLS		144	245	233	622				
FOOTAGE	12,500 - 14,999	1,927,242	3,327,179	3,170,077	8,424,498	13,384	13,580	13,605	13,544
COSTS $		230,782,309	432,099,241	283,825,836	946,707,386	1,602,655	1,763,670	1,218,137	1,522,038
WELLS		12	77	85	174				
FOOTAGE	15,000 - 17,499	188,301	1,226,653	1,365,423	2,780,377	15,692	15,931	16,064	15,979
COSTS $		27,718,557	286,388,624	202,158,625	516,265,806	2,309,880	3,719,333	2,378,337	2,967,045
WELLS		1	23	27	51				
FOOTAGE	17,500 - 19,999	18,682	422,140	491,593	932,415	18,682	18,354	18,207	18,283
COSTS $		1,451,722	147,901,323	100,461,861	249,814,906	1,451,722	6,430,493	3,720,810	4,898,332
WELLS		--	6	5	11				
FOOTAGE	20,000 & OVER	--	136,833	101,956	238,789	--	22,806	20,391	21,708
COSTS $		--	79,495,393	38,809,840	118,305,233	--	13,249,232	7,761,968	10,755,021
TOTAL WELLS		9,707	8,607	7,633	25,947				
TOTAL FOOTAGE		41,218,480	44,281,689	38,252,859	123,753,028	4,246	5,145	5,012	4,769
TOTAL COSTS $		2,302,655,014	3,346,522,366	1,635,035,620	7,284,213,000	237,216	388,814	214,206	280,734

* Includes the following states and areas which are not shown separately: Iowa, Missouri, Nevada, Oregon, South Dakota, Tennessee, Virginia, and Washington.

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

ALABAMA

Table 5

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	28	15	43				
FOOTAGE	0 - 1,249	--	31,534	6,542	38,076	--	1,126	436	885
COSTS $		--	3,005,332	166,616	3,171,948	--	107,333	11,108	73,766
WELLS		--	305	23	328				
FOOTAGE	1,250 - 2,499	--	609,801	45,725	655,526	--	1,999	1,988	1,999
COSTS $		--	41,860,334	1,449,640	43,309,974	--	137,247	63,028	132,043
WELLS		2	41	22	65				
FOOTAGE	2,500 - 3,749	5,776	115,466	66,792	188,034	2,888	2,816	3,036	2,893
COSTS $		334,141	6,847,454	2,207,656	9,389,251	167,071	167,011	100,348	144,450
WELLS		1	11	7	19				
FOOTAGE	3,750 - 4,999	4,080	46,539	32,781	83,400	4,080	4,231	4,683	4,389
COSTS $		276,268	3,122,270	1,431,762	4,830,300	276,268	283,843	204,537	254,226
WELLS		5	5	17	27				
FOOTAGE	5,000 - 7,499	31,768	25,626	99,010	156,404	6,354	5,125	5,824	5,793
COSTS $		1,446,246	1,426,863	3,450,225	6,323,334	289,249	285,373	202,954	234,198
WELLS		--	--	2	2				
FOOTAGE	7,500 - 9,999	--	--	16,965	16,965	--	--	8,483	8,483
COSTS $		--	--	597,584	597,584	--	--	298,792	298,792
WELLS		--	--	3	3				
FOOTAGE	10,000 - 12,499	--	--	35,560	35,560	--	--	11,853	11,853
COSTS $		--	--	1,997,680	1,997,680	--	--	665,893	665,893
WELLS		9	--	18	27				
FOOTAGE	12,500 - 14,999	124,065	--	251,009	375,074	13,785	--	13,945	13,892
COSTS $		9,566,162	--	12,786,089	22,352,251	1,062,907	--	710,338	827,861
WELLS		--	1	1	2				
FOOTAGE	15,000 - 17,499	--	15,552	15,100	30,652	--	15,552	15,100	15,326
COSTS $		--	1,886,455	905,828	2,792,283	--	1,886,455	905,828	1,396,142
WELLS		--	--	4	4				
FOOTAGE	17,500 - 19,999	--	--	74,646	74,646	--	--	18,662	18,662
COSTS $		--	--	6,599,386	6,599,386	--	--	1,649,847	1,649,847
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		17	391	112	520				
TOTAL FOOTAGE		165,689	844,518	644,130	1,654,337	9,746	2,160	5,751	3,181
TOTAL COSTS $		11,622,817	58,148,708	31,592,466	101,363,991	683,695	148,718	282,076	194,931

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 6

ALASKA - TOTAL

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		1	--	--	1				
FOOTAGE	2,500 - 3,749	3,500	--	--	3,500	3,500	--	--	3,500
COSTS $		569,701	--	--	569,701	569,701	--	--	569,701
WELLS		2	1	1	4				
FOOTAGE	3,750 - 4,999	8,995	4,860	3,850	17,705	4,498	4,860	3,850	4,426
COSTS $		1,569,316	842,531	622,839	3,034,686	784,658	842,531	622,839	758,672
WELLS		10	1	1	12				
FOOTAGE	5,000 - 7,499	70,790	7,450	6,100	84,340	7,079	7,450	6,100	7,028
COSTS $		15,372,737	1,100,080	1,151,208	17,624,025	1,537,274	1,100,080	1,151,208	1,468,669
WELLS		26	--	1	27				
FOOTAGE	7,500 - 9,999	225,997	--	9,146	235,143	8,692	--	9,146	8,709
COSTS $		50,444,590	--	2,126,352	52,570,942	1,940,177	--	2,126,352	1,947,072
WELLS		44	--	1	45				
FOOTAGE	10,000 - 12,499	498,880	--	11,190	510,070	11,338	--	11,190	11,335
COSTS $		155,156,153	--	13,722,112	168,878,265	3,526,276	--	13,722,112	3,752,850
WELLS		15	--	--	15				
FOOTAGE	12,500 - 14,999	203,605	--	--	203,605	13,574	--	--	13,574
COSTS $		71,089,948	--	--	71,089,948	4,739,330	--	--	4,739,330
WELLS		2	--	1	3				
FOOTAGE	15,000 - 17,499	31,375	--	15,500	46,875	15,688	--	15,500	15,625
COSTS $		11,229,278	--	5,567,842	16,797,120	5,614,639	--	5,567,842	5,599,040
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		100	2	5	107				
TOTAL FOOTAGE		1,043,142	12,310	45,786	1,101,238	10,431	6,155	9,157	10,292
TOTAL COSTS $		305,431,723	1,942,611	23,190,353	330,564,687	3,054,317	971,306	4,638,071	3,089,390

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

ALASKA - ONSHORE

Table 7

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		1	--	--	1				
FOOTAGE	2,500 - 3,749	3,500	--	--	3,500	3,500	--	--	3,500
COSTS $		569,701	--	--	569,701	569,701	--	--	569,701
WELLS		2	1	1	4				
FOOTAGE	3,750 - 4,999	8,995	4,860	3,850	17,705	4,498	4,860	3,850	4,426
COSTS $		1,569,316	842,531	622,839	3,034,686	784,658	842,531	622,839	758,672
WELLS		9	--	1	10				
FOOTAGE	5,000 - 7,499	63,360	--	6,100	69,460	7,040	--	6,100	6,946
COSTS $		13,948,908	--	1,151,208	15,100,116	1,549,879	--	1,151,208	1,510,012
WELLS		26	--	1	27				
FOOTAGE	7,500 - 9,999	225,997	--	9,146	235,143	8,692	--	9,146	8,709
COSTS $		50,444,590	--	2,126,352	52,570,942	1,940,177	--	2,126,352	1,947,072
WELLS		39	--	--	39				
FOOTAGE	10,000 - 12,499	442,493	--	--	442,493	11,346	--	--	11,346
COSTS $		127,629,115	--	--	127,629,115	3,272,542	--	--	3,272,542
WELLS		14	--	--	14				
FOOTAGE	12,500 - 14,999	191,014	--	--	191,014	13,644	--	--	13,644
COSTS $		61,070,744	--	--	61,070,744	4,362,196	--	--	4,362,196
WELLS		2	--	1	3				
FOOTAGE	15,000 - 17,499	31,375	--	15,500	46,875	15,688	--	15,500	15,625
COSTS $		11,229,278	--	5,567,842	16,797,120	5,614,639	--	5,567,842	5,599,040
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		93	1	4	98				
TOTAL FOOTAGE		966,734	4,860	34,596	1,006,190	10,395	4,860	8,649	10,267
TOTAL COSTS $		266,461,652	842,531	9,468,241	276,772,424	2,865,179	842,531	2,367,060	2,824,209

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 8

ALASKA - OFFSHORE

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	--	--	--	--				
FOOTAGE		--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
						--	--	--	--
WELLS	1,250 - 2,499	--	--	--	--				
FOOTAGE		--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
						--	--	--	--
WELLS	2,500 - 3,749	--	--	--	--				
FOOTAGE		--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
						--	--	--	--
WELLS	3,750 - 4,999	--	--	--	--				
FOOTAGE		--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
						--	--	--	--
WELLS	5,000 - 7,499	1	1	--	2				
FOOTAGE		7,430	7,450	--	14,880	7,430	7,450	--	7,440
COSTS $		1,423,829	1,100,080	--	2,523,909	1,423,829	1,100,080	--	1,261,955
WELLS	7,500 - 9,999	--	--	--	--				
FOOTAGE		--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
						--	--	--	--
WELLS	10,000 - 12,499	5	--	1	6				
FOOTAGE		56,387	--	11,190	67,577	11,277	--	11,190	11,263
COSTS $		27,527,038	--	13,722,112	41,249,150	5,505,408	--	13,722,112	6,874,859
WELLS	12,500 - 14,999	1	--	--	1				
FOOTAGE		12,591	--	--	12,591	12,591	--	--	12,591
COSTS $		10,019,204	--	--	10,019,204	10,019,204	--	--	10,019,204
WELLS	15,000 - 17,499	--	--	--	--				
FOOTAGE		--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
						--	--	--	--
WELLS	17,500 - 19,999	--	--	--	--				
FOOTAGE		--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
						--	--	--	--
WELLS	20,000 & OVER	--	--	--	--				
FOOTAGE		--	--	--	--				
COSTS $		--	--	--	--	--	--	--	-
						--	--	--	
TOTAL WELLS		7	1	1	9				
TOTAL FOOTAGE		76,408	7,450	11,190	95,048	10,915	7,450	11,190	10,561
TOTAL COSTS $		38,970,071	1,100,080	13,722,112	53,792,263	5,567,153	1,100,080	13,722,112	5,976,918

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 9

ARKANSAS

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	19	19	38				
FOOTAGE	0 - 1,249	--	18,609	17,599	36,208	--	979	926	953
COSTS $		--	714,582	377,548	1,092,130	--	37,610	19,871	28,740
WELLS		4	9	10	23				
FOOTAGE	1,250 - 2,499	8,225	18,390	18,168	44,783	2,056	2,043	1,817	1,947
COSTS $		180,072	877,990	381,096	1,439,158	45,018	97,554	38,110	62,572
WELLS		13	20	38	71				
FOOTAGE	2,500 - 3,749	40,842	63,089	118,689	222,620	3,142	3,154	3,123	3,135
COSTS $		1,276,667	3,943,667	2,786,970	8,007,304	98,205	197,183	73,341	112,779
WELLS		7	31	24	62				
FOOTAGE	3,750 - 4,999	32,001	139,488	104,131	275,620	4,572	4,500	4,339	4,445
COSTS $		1,013,861	9,802,511	2,565,365	13,381,737	144,837	316,210	106,890	215,834
WELLS		5	37	42	84				
FOOTAGE	5,000 - 7,499	33,321	220,362	258,260	511,943	6,664	5,956	6,149	6,095
COSTS $		1,384,506	15,783,140	6,755,569	23,923,215	276,901	426,571	160,847	284,800
WELLS		3	10	12	25				
FOOTAGE	7,500 - 9,999	24,330	81,309	101,078	206,717	8,110	8,131	8,423	8,269
COSTS $		744,422	5,666,269	2,975,741	9,386,432	248,141	566,627	247,978	375,457
WELLS		1	3	7	11				
FOOTAGE	10,000 - 12,499	11,802	33,407	79,899	125,108	11,802	11,136	11,414	11,373
COSTS $		484,885	4,029,497	4,189,608	8,703,990	484,885	1,343,166	598,515	791,272
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		33	129	152	314				
TOTAL FOOTAGE		150,521	574,654	697,824	1,422,999	4,561	4,455	4,591	4,532
TOTAL COSTS $		5,084,413	40,817,656	20,031,897	65,933,966	154,073	316,416	131,789	209,981

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 10

CALIFORNIA - TOTAL

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		410	1	5	416				
FOOTAGE	0 - 1,249	398,641	94	4,861	403,596	972	94	972	970
COSTS $		41,422,751	12,351	324,253	41,759,355	101,031	12,351	64,851	100,383
WELLS		663	1	10	674				
FOOTAGE	1,250 - 2,499	1,122,333	2,200	20,283	1,144,816	1,693	2,200	2,028	1,699
COSTS $		85,723,540	128,187	1,059,794	86,911,521	129,296	128,187	105,979	128,949
WELLS		230	8	13	251				
FOOTAGE	2,500 - 3,749	664,652	23,850	39,232	727,734	2,890	2,981	3,018	2,899
COSTS $		47,604,806	1,395,189	1,851,547	50,851,542	206,977	174,399	142,427	202,596
WELLS		37	12	29	78				
FOOTAGE	3,750 - 4,999	166,084	52,101	126,346	344,531	4,489	4,342	4,357	4,417
COSTS $		18,718,313	3,696,365	6,735,420	29,150,098	505,900	308,030	232,256	373,719
WELLS		55	24	59	138				
FOOTAGE	5,000 - 7,499	318,943	155,942	378,372	853,257	5,799	6,498	6,413	6,183
COSTS $		40,787,869	11,587,532	33,979,181	86,354,582	741,598	482,814	575,918	625,758
WELLS		20	20	28	68				
FOOTAGE	7,500 - 9,999	165,794	163,055	238,705	567,554	8,290	8,153	8,525	8,346
COSTS $		24,193,977	13,214,176	22,068,378	59,476,531	1,209,699	660,709	788,156	874,655
WELLS		5	1	7	13				
FOOTAGE	10,000 - 12,499	52,608	10,600	74,424	137,632	10,522	10,600	10,632	10,587
COSTS $		8,632,994	763,021	5,753,881	15,149,896	1,726,599	763,021	821,983	1,165,377
WELLS		5	--	9	14				
FOOTAGE	12,500 - 14,999	65,593	--	120,612	186,205	13,119	--	13,401	13,300
COSTS $		11,679,152	--	23,055,355	34,734,507	2,335,831	--	2,561,706	2,481,036
WELLS		1	--	--	1				
FOOTAGE	15,000 - 17,499	15,490	--	--	15,490	15,490	--	--	15,490
COSTS $		10,447,695	--	--	10,447,695	10,447,695	--	--	10,447,695
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		1,426	67	160	1,653				
TOTAL FOOTAGE		2,970,138	407,842	1,002,835	4,380,815	2,083	6,087	6,268	2,650
TOTAL COSTS $		289,211,097	30,796,821	94,827,809	414,835,727	202,813	459,654	592,674	250,959

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

CALIFORNIA - NORTH

Table 11

DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
	OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	--	--	--	--				
FOOTAGE 0 - 1,249	--	--	--	--	--	--	--	--
COSTS $	--	--	--	--	--	--	--	--
WELLS	--	1	3	4				
FOOTAGE 1,250 - 2,499	--	2,200	7,000	9,200	--	2,200	2,333	2,300
COSTS $	--	128,187	284,939	413,126	--	128,187	94,980	103,282
WELLS	--	8	4	12				
FOOTAGE 2,500 - 3,749	--	23,850	11,767	35,617	--	2,981	2,942	2,968
COSTS $	--	1,395,189	504,779	1,899,968	--	174,399	126,195	158,331
WELLS	2	9	21	32				
FOOTAGE 3,750 - 4,999	8,602	38,371	91,881	138,854	4,301	4,263	4,375	4,339
COSTS $	1,013,115	2,551,416	4,375,713	7,940,244	506,558	283,491	208,367	248,133
WELLS	--	18	32	50				
FOOTAGE 5,000 - 7,499	--	119,574	196,412	315,986	--	6,643	6,138	6,320
COSTS $	--	8,284,322	9,408,499	17,692,821	--	460,240	294,016	353,856
WELLS	--	17	15	32				
FOOTAGE 7,500 - 9,999	--	137,355	126,501	263,856	--	8,080	8,433	8,246
COSTS $	--	9,991,879	5,795,624	15,787,503	--	587,758	386,375	493,359
WELLS	--	1	1	2				
FOOTAGE 10,000 - 12,499	--	10,600	10,000	20,600	--	10,600	10,000	10,300
COSTS $	--	763,021	493,600	1,256,621	--	763,021	493,600	628,311
WELLS	--	--	--	--				
FOOTAGE 12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $	--	--	--	--	--	--	--	--
WELLS	--	--	--	--				
FOOTAGE 15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $	--	--	--	--	--	--	--	--
WELLS	--	--	--	--				
FOOTAGE 17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $	--	--	--	--	--	--	--	--
WELLS	--	--	--	--				
FOOTAGE 20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $	--	--	--	--	--	--	--	--
TOTAL WELLS	2	54	76	132				
TOTAL FOOTAGE	8,602	331,950	443,561	784,113	4,301	6,147	5,836	5,940
TOTAL COSTS $	1,013,115	23,114,014	20,863,154	44,990,283	506,558	428,037	274,515	340,835

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 12

CALIFORNIA -CENTRAL COASTAL

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	1,250 - 2,499	9	--	--	9				
FOOTAGE		17,951	--	--	17,951	1,995	--	--	1,995
COSTS $		1,568,933	--	--	1,568,933	174,326	--	--	174,326
WELLS	2,500 - 3,749	--	--	1	1				
FOOTAGE		--	--	2,900	2,900	--	--	2,900	2,900
COSTS $		--	--	266,017	266,017	--	--	266,017	266,017
WELLS	3,750 - 4,999	4	--	1	5				
FOOTAGE		18,440	--	4,725	23,165	4,610	--	4,725	4,633
COSTS $		1,974,240	--	531,980	2,506,220	493,560	--	531,980	501,244
WELLS	5,000 - 7,499	10	1	5	16				
FOOTAGE		61,574	6,306	32,762	100,642	6,157	6,306	6,552	6,290
COSTS $		7,175,825	662,259	4,359,420	12,197,504	717,583	662,259	871,884	762,344
WELLS	7,500 - 9,999	7	--	2	9				
FOOTAGE		57,292	--	16,444	73,736	8,185	--	8,222	8,193
COSTS $		6,107,181	--	1,075,382	7,182,563	872,454	--	537,691	798,063
WELLS	10,000 - 12,499	--	--	1	1				
FOOTAGE		--	--	10,000	10,000	--	--	10,000	10,000
COSTS $		--	--	1,889,546	1,889,546	--	--	1,889,546	1,889,546
WELLS	12,500 - 14,999	1	--	1	2				
FOOTAGE		14,407	--	13,225	27,632	14,407	--	13,225	13,816
COSTS $		1,655,748	--	2,356,297	4,012,045	1,655,748	--	2,356,297	2,006,023
WELLS	15,000 - 17,499	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	17,500 - 19,999	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	20,000 & OVER	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		31	1	11	43				
TOTAL FOOTAGE		169,664	6,306	80,056	256,026	5,473	6,306	7,278	5,954
TOTAL COSTS $		18,481,927	662,259	10,478,642	29,622,828	596,191	662,259	952,604	688,903

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

CALIFORNIA - EAST CENTRAL

Table 13

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		410	--	5	415				
FOOTAGE	0 - 1,249	398,641	--	4,861	403,502	972	--	972	972
COSTS $		41,422,751	--	324,253	41,747,004	101,031	--	64,851	100,595
WELLS		645	--	7	652				
FOOTAGE	1,250 - 2,499	1,085,489	--	13,283	1,098,772	1,683	--	1,898	1,685
COSTS $		82,805,207	--	774,855	83,580,062	128,380	--	110,694	128,190
WELLS		217	--	8	225				
FOOTAGE	2,500 - 3,749	628,227	--	24,565	652,792	2,895	--	3,071	2,901
COSTS $		44,660,891	--	1,080,751	45,741,642	205,811	--	135,094	203,296
WELLS		23	3	6	32				
FOOTAGE	3,750 - 4,999	102,094	13,730	25,478	141,302	4,439	4,577	4,246	4,416
COSTS $		11,107,700	1,144,949	1,507,465	13,760,114	482,943	381,650	251,244	430,004
WELLS		38	5	19	62				
FOOTAGE	5,000 - 7,499	214,621	30,062	129,440	374,123	5,648	6,012	6,813	6,034
COSTS $		27,734,596	2,640,951	8,102,666	38,478,213	729,858	528,190	426,456	620,616
WELLS		8	3	8	19				
FOOTAGE	7,500 - 9,999	65,999	25,700	67,558	159,257	8,250	8,567	8,445	8,382
COSTS $		9,080,044	3,222,297	4,832,447	17,134,788	1,135,006	1,074,099	604,056	901,831
WELLS		4	--	2	6				
FOOTAGE	10,000 - 12,499	42,092	--	22,700	64,792	10,523	--	11,350	10,799
COSTS $		5,038,602	--	1,829,470	6,868,072	1,259,651	--	914,735	1,144,679
WELLS		3	--	6	9				
FOOTAGE	12,500 - 14,999	38,059	--	79,533	117,592	12,686	--	13,256	13,066
COSTS $		4,043,300	--	7,938,433	11,981,733	1,347,767	--	1,323,072	1,331,304
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--				
COSTS $		--	--	--	-	--	--	--	
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--				
COSTS $		--	--	--	--	-	--	--	-
TOTAL WELLS		1,348	11	61	1,420				
TOTAL FOOTAGE		2,575,222	69,492	367,418	3,012,132	1,910	6,317	6,023	2,121
TOTAL COSTS $		225,893,091	7,008,197	26,390,340	259,291,628	167,576	637,109	432,629	182,600

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

CALIFORNIA - SOUTH

Table 14

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	1	--	1				
FOOTAGE	0 - 1,249	--	94	--	94	--	94	--	94
COSTS $		--	12,351	--	12,351	--	12,351	--	12,351
WELLS		9	--	--	9				
FOOTAGE	1,250 - 2,499	18,893	--	--	18,893	2,099	--	--	2,099
COSTS $		1,349,400	--	--	1,349,400	149,933	--	--	149,933
WELLS		11	--	--	11				
FOOTAGE	2,500 - 3,749	29,520	--	--	29,520	2,684	--	--	2,684
COSTS $		2,000,144	--	--	2,000,144	181,831	--	--	181,831
WELLS		3	--	1	4				
FOOTAGE	3,750 - 4,999	14,550	--	4,262	18,812	4,850	--	4,262	4,703
COSTS $		1,071,494	--	320,262	1,391,756	357,165	--	320,262	347,939
WELLS		3	--	1	4				
FOOTAGE	5,000 - 7,499	17,098	--	6,850	23,948	5,699	--	6,850	5,987
COSTS $		886,196	--	148,495	1,034,691	295,399	--	148,495	258,673
WELLS		2	--	1	3				
FOOTAGE	7,500 - 9,999	16,492	--	9,969	26,461	8,246	--	9,969	8,820
COSTS $		1,598,179	--	486,043	2,084,222	799,090	--	486,043	694,741
WELLS		--	--	3	3				
FOOTAGE	10,000 - 12,499	--	--	31,724	31,724	--	--	10,575	10,575
COSTS $		--	--	1,541,265	1,541,265	--	--	513,755	513,755
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		28	1	6	35				
TOTAL FOOTAGE		96,553	94	52,805	149,452	3,448	94	8,801	4,270
TOTAL COSTS $		6,905,413	12,351	2,496,065	9,413,829	246,622	12,351	416,011	268,967

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

CALIFORNIA - OFFSHORE

Table 15

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		2	--	--	2				
FOOTAGE	2,500 - 3,749	6,905	--	--	6,905	3,453	--	--	3,453
COSTS $		943,771	--	--	943,771	471,886	--	--	471,886
WELLS		5	--	--	5				
FOOTAGE	3,750 - 4,999	22,398	--	--	22,398	4,480	--	--	4,480
COSTS $		3,551,764	--	--	3,551,764	710,353	--	--	710,353
WELLS		4	--	2	6				
FOOTAGE	5,000 - 7,499	25,650	--	12,908	38,558	6,413	--	6,454	6,426
COSTS $		4,991,252	--	11,960,101	16,951,353	1,247,813	--	5,980,051	2,825,226
WELLS		3	--	2	5				
FOOTAGE	7,500 - 9,999	26,011	--	18,233	44,244	8,670	--	9,117	8,849
COSTS $		7,408,573	--	9,878,882	17,287,455	2,469,524	--	4,939,441	3,457,491
WELLS		1	--	--	1				
FOOTAGE	10,000 - 12,499	10,516	--	--	10,516	10,516	--	--	10,516
COSTS $		3,594,392	--	--	3,594,392	3,594,392	--	--	3,594,392
WELLS		1	--	2	3				
FOOTAGE	12,500 - 14,999	13,127	--	27,854	40,981	13,127	--	13,927	13,660
COSTS $		5,980,104	--	12,760,625	18,740,729	5,980,104	--	6,380,313	6,246,910
WELLS		1	--	--	1				
FOOTAGE	15,000 - 17,499	15,490	--	--	15,490	15,490	--	--	15,490
COSTS $		10,447,695	--	--	10,447,695	10,447,695	--	--	10,447,695
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		17	--	6	23				
TOTAL FOOTAGE		120,097	--	58,995	179,092	7,065	--	9,833	7,787
TOTAL COSTS $		36,917,551	--	34,599,608	71,517,159	2,171,621	--	5,766,602	3,109,442

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 16

COLORADO

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		1	2	3	6				
FOOTAGE	0 - 1,249	1,196	2,318	2,169	5,683	1,196	1,159	723	947
COSTS $		19,063	281,697	79,084	379,844	19,063	140,849	26,361	63,307
WELLS		--	34	14	48				
FOOTAGE	1,250 - 2,499	--	70,924	26,031	96,955	--	2,086	1,859	2,020
COSTS $		--	8,863,358	800,358	9,663,716	--	260,687	57,168	201,327
WELLS		5	139	14	158				
FOOTAGE	2,500 - 3,749	17,109	429,808	46,046	492,963	3,422	3,092	3,289	3,120
COSTS $		269,657	34,320,090	775,509	35,365,256	53,931	246,907	55,394	223,831
WELLS		7	32	33	72				
FOOTAGE	3,750 - 4,999	31,048	128,286	151,126	310,460	4,435	4,009	4,580	4,312
COSTS $		766,116	9,370,716	2,362,968	12,499,800	109,445	292,835	71,605	173,608
WELLS		85	205	228	518				
FOOTAGE	5,000 - 7,499	502,910	1,439,429	1,314,156	3,256,495	5,917	7,022	5,764	6,287
COSTS $		14,339,057	81,339,740	17,013,149	112,691,946	168,695	396,779	74,619	217,552
WELLS		6	59	17	82				
FOOTAGE	7,500 - 9,999	48,044	474,987	139,800	662,831	8,007	8,051	8,224	8,083
COSTS $		1,397,622	24,519,246	2,003,991	27,920,859	232,937	415,580	117,882	340,408
WELLS		--	1	2	3				
FOOTAGE	10,000 - 12,499	--	10,221	21,060	31,281	--	10,221	10,530	10,427
COSTS $		--	465,282	1,480,058	1,945,340	--	465,282	740,029	648,447
WELLS		1	--	--	1				
FOOTAGE	12,500 - 14,999	13,840	--	--	13,840	13,840	--	--	13,840
COSTS $		3,222,400	--	--	3,222,400	3,222,400	--	--	3,222,400
WELLS		--	--	1	1				
FOOTAGE	15,000 - 17,499	--	--	17,430	17,430	--	--	17,430	17,430
COSTS $		--	--	2,240,002	2,240,002	--	--	2,240,002	2,240,002
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		105	472	312	889				
TOTAL FOOTAGE		614,147	2,555,973	1,717,818	4,887,938	5,849	5,415	5,506	5,498
TOTAL COSTS $		20,013,915	159,160,129	26,755,119	205,929,163	190,609	337,204	85,754	231,641

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

FLORIDA

Table 17

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	1,250 - 2,499	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	2,500 - 3,749	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	3,750 - 4,999	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	5,000 - 7,499	--	--	1	1				
FOOTAGE		--	--	6,602	6,602	--	--	6,602	6,602
COSTS $		--	--	186,041	186,041	--	--	186,041	186,041
WELLS	7,500 - 9,999	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	10,000 - 12,499	--	--	1	1				
FOOTAGE		--	--	11,620	11,620	--	--	11,620	11,620
COSTS $		--	--	413,339	413,339	--	--	413,339	413,339
WELLS	12,500 - 14,999	--	--	2	2				
FOOTAGE		--	--	29,075	29,075	--	--	14,538	14,538
COSTS $		--	--	1,354,216	1,354,216	--	--	677,108	677,108
WELLS	15,000 - 17,499	1	--	4	5				
FOOTAGE		15,735	--	65,978	81,713	15,735	--	16,495	16,343
COSTS $		3,592,027	--	3,726,546	7,318,573	3,592,027	--	931,637	1,463,715
WELLS	17,500 - 19,999	--	--	1	1				
FOOTAGE		--	--	17,500	17,500	--	--	17,500	17,500
COSTS $		--	--	1,323,084	1,323,084	--	--	1,323,084	1,323,084
WELLS	20,000 & OVER	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		1	--	9	10				
TOTAL FOOTAGE		15,735	--	130,775	146,510	15,735	--	14,531	14,651
TOTAL COSTS $		3,592,027	--	7,003,226	10,595,253	3,592,027	--	778,136	1,059,525

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 18

ILLINOIS

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		66	42	175	283				
FOOTAGE	0 - 1,249	53,205	18,586	111,246	183,037	806	443	636	647
COSTS $		2,237,495	1,070,959	2,471,129	5,779,583	33,901	25,499	14,121	20,423
WELLS		113	1	79	193				
FOOTAGE	1,250 - 2,499	209,269	1,852	154,885	366,006	1,852	1,852	1,961	1,896
COSTS $		8,057,346	73,604	3,225,659	11,356,609	71,304	73,604	40,831	58,843
WELLS		114	2	134	250				
FOOTAGE	2,500 - 3,749	354,275	5,948	405,575	765,798	3,108	2,974	3,027	3,063
COSTS $		11,058,692	220,624	6,562,950	17,842,266	97,006	110,312	48,977	71,369
WELLS		29	--	29	58				
FOOTAGE	3,750 - 4,999	114,456	--	118,808	233,264	3,947	--	4,097	4,022
COSTS $		2,883,887	--	1,524,655	4,408,542	99,444	--	52,574	76,009
WELLS		--	--	1	1				
FOOTAGE	5,000 - 7,499	--	--	5,253	5,253	--	--	5,253	5,253
COSTS $		--	--	110,753	110,753	--	--	110,753	110,753
WELLS		--	--	--	--				
FOOTAGE	7,500 - 9,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		322	45	418	785				
TOTAL FOOTAGE		731,205	26,386	795,767	1,553,358	2,271	586	1,904	1,979
TOTAL COSTS $		24,237,420	1,365,187	13,895,146	39,497,753	75,271	30,337	33,242	50,316

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

INDIANA

Table 19

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		36	7	43	86				
FOOTAGE	0 - 1,249	31,775	4,660	31,228	67,663	883	666	726	787
COSTS $		741,472	85,169	469,383	1,296,024	20,596	12,167	10,916	15,070
WELLS		25	2	49	76				
FOOTAGE	1,250 - 2,499	43,676	3,832	86,209	133,717	1,747	1,916	1,759	1,759
COSTS $		930,909	59,885	1,147,100	2,137,894	37,236	29,943	23,410	28,130
WELLS		1	1	10	12				
FOOTAGE	2,500 - 3,749	2,775	2,500	28,056	33,331	2,775	2,500	2,806	2,778
COSTS $		58,485	45,907	368,886	473,278	58,485	45,907	36,889	39,440
WELLS		--	--	1	1				
FOOTAGE	3,750 - 4,999	--	--	4,131	4,131	--	--	4,131	4,131
COSTS $		--	--	51,670	51,670	--	--	51,670	51,670
WELLS		--	--	--	--				
FOOTAGE	5,000 - 7,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	7,500 - 9,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		62	10	103	175				
TOTAL FOOTAGE		78,226	10,992	149,624	238,842	1,262	1,099	1,453	1,365
TOTAL COSTS $		1,730,866	190,961	2,037,039	3,958,866	27,917	19,096	19,777	22,622

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

KANSAS

Table 20

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		294	68	96	458				
FOOTAGE	0 - 1,249	249,778	53,242	75,216	378,236	850	783	784	826
COSTS $		3,274,834	1,086,719	626,351	4,987,904	11,139	15,981	6,524	10,891
WELLS		107	39	88	234				
FOOTAGE	1,250 - 2,499	186,982	64,393	158,734	410,109	1,747	1,651	1,804	1,753
COSTS $		3,195,914	3,580,599	1,684,054	8,460,567	29,868	91,810	19,137	36,156
WELLS		151	364	224	739				
FOOTAGE	2,500 - 3,749	501,503	1,044,382	736,369	2,282,254	3,321	2,869	3,287	3,088
COSTS $		10,823,149	55,683,349	9,308,028	75,814,526	71,676	152,976	41,554	102,591
WELLS		223	23	457	703				
FOOTAGE	3,750 - 4,999	971,474	103,335	1,985,185	3,059,994	4,356	4,493	4,344	4,353
COSTS $		26,643,181	3,237,447	26,718,929	56,599,557	119,476	140,759	58,466	80,511
WELLS		78	107	169	354				
FOOTAGE	5,000 - 7,499	446,533	628,410	953,086	2,028,029	5,725	5,873	5,640	5,729
COSTS $		16,839,336	21,085,773	18,291,322	56,216,431	215,889	197,063	108,233	158,803
WELLS		--	--	--	--				
FOOTAGE	7,500 - 9,999	--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--				
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		853	601	1,034	2,488				
TOTAL FOOTAGE		2,356,270	1,893,762	3,908,590	8,158,622	2,762	3,151	3,780	3,279
TOTAL COSTS $		60,776,414	84,673,887	56,628,684	202,078,985	71,250	140,888	54,767	81,221

ESTIMATED COSTS OF DRILLINC AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

KENTUCKY

Table 21

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		89	40	129	258				
FOOTAGE	0 - 1,249	68,652	36,084	84,726	189,462	771	902	657	734
COSTS $		1,147,870	487,487	1,054,817	2,690,174	12,897	12,187	8,177	10,427
WELLS		75	120	151	346				
FOOTAGE	1,250 - 2,499	126,515	212,738	279,837	619,090	1,687	1,773	1,853	1,789
COSTS $		2,597,024	4,664,391	4,082,111	11,343,526	34,627	38,870	27,034	32,785
WELLS		33	151	20	204				
FOOTAGE	2,500 - 3,749	90,670	486,490	58,044	635,204	2,748	3,222	2,902	3,114
COSTS $		3,473,903	23,354,964	1,345,118	28,173,985	105,270	154,669	67,256	138,108
WELLS		1	71	4	76				
FOOTAGE	3,750 - 4,999	4,514	310,987	17,178	332,679	4,514	4,380	4,295	4,377
COSTS $		212,315	17,990,505	676,922	18,879,742	212,315	253,387	169,231	248,418
WELLS		2	12	1	15				
FOOTAGE	5,000 - 7,499	11,215	62,114	5,855	79,184	5,608	5,176	5,855	5,279
COSTS $		633,101	3,817,936	206,125	4,157,162	316,551	276,495	206,125	277,144
WELLS		--	--	--	--				
FOOTAGE	7,500 - 9,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		200	394	305	899				
TOTAL FOOTAGE		301,566	1,108,413	445,640	1,855,619	1,508	2,813	1,461	2,064
TOTAL COSTS $		8,064,213	49,815,283	7,365,093	65,244,589	40,321	126,435	24,148	72,575

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 22

LOUISIANA - TOTAL

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		24	28	12	64				
FOOTAGE	0 - 1,249	20,203	25,053	12,409	57,665	842	895	1,034	901
COSTS $		570,487	572,211	216,850	1,359,548	23,770	20,436	18,071	21,243
WELLS		37	73	29	139				
FOOTAGE	1,250 - 2,499	67,184	163,392	55,441	286,017	1,816	2,238	1,912	2,058
COSTS $		6,955,687	3,867,008	2,045,484	12,868,179	187,992	52,973	70,534	92,577
WELLS		43	44	112	199				
FOOTAGE	2,500 - 3,749	129,226	131,278	337,434	597,938	3,005	2,984	3,013	3,005
COSTS $		6,928,217	3,554,565	15,138,421	25,621,203	161,121	80,786	135,164	128,750
WELLS		38	29	58	125				
FOOTAGE	3,750 - 4,999	164,221	123,655	253,101	540,977	4,322	4,264	4,364	4,328
COSTS $		8,927,062	21,643,296	10,901,514	41,471,872	234,923	746,321	187,957	331,775
WELLS		51	41	120	212				
FOOTAGE	5,000 - 7,499	321,200	271,767	753,592	1,346,559	6,298	6,628	6,280	6,352
COSTS $		36,000,085	31,503,582	38,636,956	106,140,623	705,884	768,380	321,975	500,663
WELLS		58	101	140	299				
FOOTAGE	7,500 - 9,999	505,830	909,812	1,219,492	2,635,134	8,721	9,008	8,711	8,813
COSTS $		75,299,075	126,541,101	94,063,209	295,903,385	1,298,260	1,252,882	671,880	989,643
WELLS		71	103	134	308				
FOOTAGE	10,000 - 12,499	800,683	1,138,267	1,509,366	3,448,316	11,277	11,051	11,264	11,196
COSTS $		121,587,579	179,279,244	169,231,407	470,098,230	1,712,501	1,740,575	1,262,921	1,526,293
WELLS		40	60	100	200				
FOOTAGE	12,500 - 14,999	550,711	827,355	1,376,692	2,754,758	13,768	13,789	13,767	13,774
COSTS $		116,176,043	184,394,211	206,336,109	506,906,363	2,904,401	3,073,237	2,063,361	2,534,532
WELLS		8	37	46	91				
FOOTAGE	15,000 - 17,499	127,346	596,746	738,641	1,462,733	15,918	16,128	16,057	16,074
COSTS $		46,522,733	178,709,965	142,809,897	368,042,595	5,815,342	4,829,999	3,104,563	4,044,424
WELLS		1	5	7	13				
FOOTAGE	17,500 - 19,999	17,600	93,681	127,669	238,950	17,600	18,736	18,238	18,381
COSTS $		12,028,708	54,091,898	36,767,985	102,888,591	12,028,708	10,818,380	5,252,570	7,914,507
WELLS		--	1	4	5				
FOOTAGE	20,000 & OVER	--	20,000	82,680	102,680	--	20,000	20,670	20,536
COSTS $		--	17,211,400	41,216,488	58,427,888	--	17,211,401	10,304,122	11,685,578
TOTAL WELLS		371	522	762	1,655				
TOTAL FOOTAGE		2,704,204	4,301,006	6,466,517	13,471,727	7,289	8,239	8,486	8,140
TOTAL COSTS $		430,995,676	801,368,481	757,364,320	1,989,728,477	1,161,713	1,535,189	993,916	1,202,253

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

LOUISIANA - NORTH

Table 23

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		24	28	12	64				
FOOTAGE	0 - 1,249	20,203	25,053	12,409	57,665	842	895	1,034	901
COSTS $		570,487	572,211	216,850	1,359,548	23,770	20,436	18,071	21,243
WELLS		26	70	26	122				
FOOTAGE	1,250 - 2,499	45,804	158,584	50,465	254,853	1,762	2,265	1,941	2,089
COSTS $		1,665,695	3,086,217	763,169	5,515,081	64,065	44,089	29,353	45,206
WELLS		36	43	97	176				
FOOTAGE	2,500 - 3,749	107,942	128,625	290,525	527,092	2,998	2,991	2,995	2,995
COSTS $		3,584,853	3,327,879	4,089,057	11,001,789	99,579	77,393	42,155	62,510
WELLS		28	18	45	91				
FOOTAGE	3,750 - 4,999	119,060	74,892	196,974	390,926	4,252	4,161	4,377	4,296
COSTS $		3,204,854	2,502,155	2,513,400	8,220,409	114,459	139,009	55,853	90,334
WELLS		16	23	78	117				
FOOTAGE	5,000 - 7,499	99,375	154,211	480,717	734,303	6,211	6,705	6,163	6,276
COSTS $		3,101,500	8,446,016	7,431,371	18,978,887	193,844	367,218	95,274	162,213
WELLS		7	57	30	94				
FOOTAGE	7,500 - 9,999	57,521	515,177	250,805	823,503	8,217	9,038	8,360	8,761
COSTS $		2,240,852	43,165,368	6,407,058	51,813,278	320,122	757,287	213,569	551,205
WELLS		9	33	15	57				
FOOTAGE	10,000 - 12,499	104,465	350,551	162,031	617,047	11,607	10,623	10,802	10,825
COSTS $		8,149,873	41,264,776	8,202,405	57,617,054	905,541	1,250,448	546,827	1,010,826
WELLS		--	--	1	1				
FOOTAGE	12,500 - 14,999	--	--	13,000	13,000	--	--	13,000	13,000
COSTS $		--	--	1,169,380	1,169,380	--	--	1,169,380	1,169,380
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		146	272	304	722				
TOTAL FOOTAGE		554,370	1,407,093	1,456,926	3,418,389	3,797	5,173	4,793	4,735
TOTAL COSTS $		22,518,114	102,364,622	30,792,690	155,675,426	154,234	376,341	101,292	215,617

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 24

LOUISIANA - SOUTH

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
0 - 1,249	WELLS	--	--	--	--				
	FOOTAGE	--	--	--	--				
	COSTS $	--	--	--	--	--	--	--	--
						--	--	--	--
1,250 - 2,499	WELLS	10	3	--	13				
	FOOTAGE	19,505	4,808	--	24,313	1,951	1,603	--	1,870
	COSTS $	1,137,987	780,791	--	1,918,778	113,799	260,264	--	147,598
2,500 - 3,749	WELLS	7	1	6	14				
	FOOTAGE	21,284	2,653	19,209	43,146	3,041	2,653	3,202	3,082
	COSTS $	3,343,364	226,686	1,750,868	5,320,918	477,623	226,686	291,811	380,066
3,750 - 4,999	WELLS	8	1	3	12				
	FOOTAGE	36,226	4,841	13,313	54,380	4,528	4,841	4,438	4,532
	COSTS $	3,729,994	321,360	647,579	4,698,933	466,249	321,360	215,860	391,578
5,000 - 7,499	WELLS	22	4	20	46				
	FOOTAGE	138,797	26,942	128,948	294,687	6,309	6,736	6,447	6,406
	COSTS $	10,044,417	1,706,116	4,143,709	15,894,242	456,564	426,529	207,185	345,527
7,500 - 9,999	WELLS	24	10	65	99				
	FOOTAGE	208,091	90,986	573,088	872,165	8,670	9,099	8,817	8,810
	COSTS $	19,667,241	6,261,732	22,390,642	48,319,615	819,468	626,173	344,471	488,077
10,000 - 12,499	WELLS	30	39	65	134				
	FOOTAGE	337,557	442,504	739,779	1,519,840	11,252	11,346	11,381	11,342
	COSTS $	31,655,083	44,036,482	48,648,987	124,340,552	1,055,169	1,129,141	748,446	927,915
12,500 - 14,999	WELLS	14	27	67	108				
	FOOTAGE	190,474	369,603	920,959	1,481,036	13,605	13,689	13,746	13,713
	COSTS $	28,945,282	54,707,182	98,351,858	182,004,322	2,067,520	2,026,192	1,467,938	1,685,225
15,000 - 17,499	WELLS	--	28	29	57				
	FOOTAGE	--	454,656	466,717	921,373	--	16,238	16,094	16,164
	COSTS $	--	134,453,341	70,439,087	204,892,428	--	4,801,905	2,428,934	3,594,604
17,500 - 19,999	WELLS	--	4	6	10				
	FOOTAGE	--	74,101	110,019	184,120	--	18,525	18,337	18,412
	COSTS $	--	38,565,798	29,815,397	68,381,195	--	9,641,450	4,969,233	6,838,120
20,000 & OVER	WELLS	--	1	3	4				
	FOOTAGE	--	20,000	60,000	80,000	--	20,000	20,000	20,000
	COSTS $	--	17,211,400	25,259,302	42,470,702	--	17,211,401	8,419,767	10,617,676
TOTAL WELLS		115	118	264	497				
TOTAL FOOTAGE		951,934	1,491,094	3,032,032	5,475,060	8,278	12,636	11,485	11,016
TOTAL COSTS $		98,523,368	298,270,888	301,447,429	698,241,685	856,725	2,527,720	1,141,846	1,404,913

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

LOUISIANA - OFFSHORE

Table 25

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		1	--	3	4				
FOOTAGE	1,250 - 2,499	1,875	--	4,976	6,851	1,875	--	1,659	1,713
COSTS $		4,152,005	--	1,282,315	5,434,320	4,152,005	--	427,438	1,358,580
WELLS		--	--	9	9				
FOOTAGE	2,500 - 3,749	--	--	27,700	27,700	--	--	3,078	3,078
COSTS $		--	--	9,298,496	9,298,496	--	--	1,033,166	1,033,166
WELLS		2	10	10	22				
FOOTAGE	3,750 - 4,999	8,935	43,922	42,814	95,671	4,468	4,392	4,281	4,349
COSTS $		1,992,214	18,819,781	7,740,535	28,552,530	996,107	1,881,978	774,054	1,297,842
WELLS		13	14	22	49				
FOOTAGE	5,000 - 7,499	83,028	90,614	143,927	317,569	6,387	6,472	6,542	6,481
COSTS $		22,854,168	21,351,450	27,061,876	71,267,494	1,758,013	1,525,104	1,230,085	1,454,439
WELLS		27	34	45	106				
FOOTAGE	7,500 - 9,999	240,218	303,649	395,599	939,466	8,897	8,931	8,791	8,863
COSTS $		53,390,982	77,114,001	65,265,509	195,770,492	1,977,444	2,268,059	1,450,345	1,846,891
WELLS		32	31	54	117				
FOOTAGE	10,000 - 12,499	358,661	345,212	607,556	1,311,429	11,208	11,136	11,251	11,209
COSTS $		81,782,623	93,977,986	112,380,015	288,140,624	2,555,707	3,031,548	2,081,111	2,462,741
WELLS		26	33	32	91				
FOOTAGE	12,500 - 14,999	360,237	457,752	442,733	1,260,722	13,855	13,871	13,835	13,854
COSTS $		87,230,761	129,687,029	106,814,871	323,732,661	3,355,029	3,929,910	3,337,965	3,557,502
WELLS		8	9	17	34				
FOOTAGE	15,000 - 17,499	127,346	142,090	271,924	541,360	15,918	15,788	15,996	15,922
COSTS $		46,522,733	44,256,624	72,370,810	163,150,167	5,815,342	4,917,403	4,257,107	4,798,535
WELLS		1	1	1	3				
FOOTAGE	17,500 - 19,999	17,600	19,580	17,650	54,830	17,600	19,580	17,650	18,277
COSTS $		12,028,708	15,526,100	6,952,588	34,507,396	12,028,708	15,526,100	6,952,588	11,502,465
WELLS		--	--	1	1				
FOOTAGE	20,000 & OVER	--	--	22,680	22,680	--	--	22,680	22,680
COSTS $		--	--	15,957,186	15,957,186	--	--	15,957,186	15,957,186
TOTAL WELLS		110	132	194	436				
TOTAL FOOTAGE		1,197,900	1,402,819	1,977,559	4,578,278	10,890	10,627	10,194	10,501
TOTAL COSTS $		309,954,194	400,732,971	425,124,201	1,135,811,366	2,817,766	3,035,856	2,191,362	2,605,072

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 26

MICHIGAN

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	53	1	54				
FOOTAGE	0 - 1,249	--	57,857	1,225	59,082	--	1,092	1,225	1,094
COSTS $		--	4,134,218	38,950	4,173,168	--	78,004	38,950	77,281
WELLS		1	508	10	519				
FOOTAGE	1,250 - 2,499	1,624	779,286	17,650	798,560	1,624	1,534	1,765	1,539
COSTS $		92,538	38,804,197	578,144	39,474,879	92,538	76,386	57,814	76,060
WELLS		11	7	25	43				
FOOTAGE	2,500 - 3,749	37,463	22,089	82,783	142,335	3,406	3,156	3,311	3,310
COSTS $		1,935,346	1,212,009	2,973,106	6,120,461	175,941	173,144	118,924	142,336
WELLS		25	5	59	89				
FOOTAGE	3,750 - 4,999	109,624	21,043	249,134	379,801	4,385	4,209	4,223	4,267
COSTS $		5,649,953	1,586,422	10,092,783	17,329,158	225,998	317,284	171,064	194,710
WELLS		12	6	46	64				
FOOTAGE	5,000 - 7,499	75,963	40,023	292,028	408,014	6,330	6,671	6,348	6,375
COSTS $		4,382,625	4,811,334	16,420,787	25,614,746	365,219	801,889	356,974	400,230
WELLS		--	9	10	19				
FOOTAGE	7,500 - 9,999	--	79,179	87,641	166,820	--	8,798	8,764	8,780
COSTS $		--	11,758,993	7,565,768	19,324,761	--	1,306,555	756,577	1,017,093
WELLS		1	24	16	41				
FOOTAGE	10,000 - 12,499	12,050	269,199	181,197	462,446	12,050	11,217	11,325	11,279
COSTS $		1,174,273	55,504,180	32,633,166	89,311,619	1,174,273	2,312,674	2,039,573	2,178,332
WELLS		--	2	--	2				
FOOTAGE	12,500 - 14,999	--	25,767	--	25,767	--	12,884	--	12,884
COSTS $		--	9,431,495	--	9,431,495	--	4,715,748	--	4,715,748
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		50	614	167	831				
TOTAL FOOTAGE		236,724	1,294,443	911,658	2,442,825	4,734	2,108	5,459	2,940
TOTAL COSTS $		13,234,735	127,242,848	70,302,704	210,780,287	264,695	207,236	420,974	253,647

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

MISSISSIPPI*

Table 27

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	1	1				
FOOTAGE	0 - 1,249	--	--	1,220	1,220	--	--	1,220	1,220
COSTS $		--	--	38,710	38,710	--	--	38,710	38,710
WELLS		1	3	7	11				
FOOTAGE	1,250 - 2,499	2,374	5,868	14,773	23,015	2,374	1,956	2,110	2,092
COSTS $		88,332	433,065	518,821	1,040,218	88,332	144,355	74,117	94,565
WELLS		2	4	11	17				
FOOTAGE	2,500 - 3,749	7,226	11,257	33,676	52,159	3,613	2,814	3,061	3,068
COSTS $		289,383	843,298	827,087	1,959,768	144,692	210,825	75,190	115,280
WELLS		5	17	24	46				
FOOTAGE	3,750 - 4,999	22,823	72,169	102,533	197,525	4,565	4,245	4,272	4,294
COSTS $		1,023,342	3,853,805	1,893,146	6,770,293	204,668	226,694	78,881	147,180
WELLS		14	2	50	66				
FOOTAGE	5,000 - 7,499	88,751	11,672	316,906	417,329	6,339	5,836	6,338	6,323
COSTS $		4,026,805	513,203	4,559,965	9,099,973	287,629	256,602	91,199	137,878
WELLS		10	11	25	46				
FOOTAGE	7,500 - 9,999	83,107	85,914	205,778	374,799	8,311	7,810	8,231	8,148
COSTS $		4,177,903	3,464,862	3,697,257	11,340,022	417,790	314,987	147,890	246,522
WELLS		8	3	11	22				
FOOTAGE	10,000 - 12,499	96,009	32,960	129,095	258,064	12,001	10,987	11,736	11,730
COSTS $		7,377,240	1,504,912	4,398,003	13,280,155	922,155	501,637	399,818	603,643
WELLS		24	7	22	53				
FOOTAGE	12,500 - 14,999	324,624	96,374	296,197	717,195	13,526	13,768	13,464	13,532
COSTS $		22,967,111	7,435,298	11,986,165	42,388,574	956,963	1,062,185	544,826	799,784
WELLS		7	3	5	15				
FOOTAGE	15,000 - 17,499	110,046	46,894	78,511	235,451	15,721	15,631	15,702	15,697
COSTS $		9,459,350	7,501,893	5,383,220	22,344,463	1,351,336	2,500,631	1,076,644	1,489,631
WELLS		1	2	5	8				
FOOTAGE	17,500 - 19,999	18,682	35,833	91,770	146,285	18,682	17,917	18,354	18,286
COSTS $		1,451,722	16,086,200	13,859,930	31,397,852	1,451,722	8,043,100	2,771,986	3,924,732
WELLS		--	--	2	2				
FOOTAGE	20,000 & OVER	--	--	44,960	44,960	--	--	22,480	22,480
COSTS $		--	--	42,384,775	42,384,775	--	--	21,192,389	21,192,389
TOTAL WELLS		72	52	163	287				
TOTAL FOOTAGE		753,642	398,941	1,315,419	2,468,002	10,467	7,672	8,070	8,599
TOTAL COSTS $		50,861,188	41,636,536	89,547,079	182,044,803	706,405	800,703	549,369	634,302

* Includes one well for Offshore Mississippi, a dry hole in depth range 11.

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 28

MONTANA

DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
	OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	2	9	8	19				
FOOTAGE 0 - 1,249	1,715	8,649	8,001	18,365	858	961	1,000	967
COSTS $	75,729	361,810	163,441	600,980	37,865	40,201	20,430	31,631
WELLS	5	111	24	140				
FOOTAGE 1,250 - 2,499	8,514	175,674	40,961	225,149	1,703	1,583	1,707	1,608
COSTS $	312,657	6,857,135	768,238	7,938,030	62,531	61,776	32,010	56,700
WELLS	5	7	4	16				
FOOTAGE 2,500 - 3,749	15,104	18,474	11,071	44,649	3,021	2,639	2,768	2,791
COSTS $	596,038	476,507	376,991	1,449,536	119,208	68,072	94,248	90,596
WELLS	1	--	4	5				
FOOTAGE 3,750 - 4,999	4,570	--	17,592	22,162	4,570	--	4,398	4,432
COSTS $	295,652	--	539,293	834,945	295,652	--	134,823	166,989
WELLS	5	--	13	18				
FOOTAGE 5,000 - 7,499	29,452	--	77,066	106,518	5,890	--	5,928	5,918
COSTS $	1,630,035	--	2,515,285	4,145,320	326,007	--	193,483	230,296
WELLS	6	--	5	11				
FOOTAGE 7,500 - 9,999	53,383	--	40,061	93,444	8,897	--	8,012	8,495
COSTS $	3,123,931	--	1,183,168	4,307,099	520,655	--	236,634	391,554
WELLS	3	--	9	12				
FOOTAGE 10,000 - 12,499	32,366	--	99,519	131,885	10,789	--	11,058	10,990
COSTS $	2,411,125	--	5,899,268	8,310,393	803,708	--	655,474	692,533
WELLS	2	--	2	4				
FOOTAGE 12,500 - 14,999	25,450	--	25,050	50,500	12,725	--	12,525	12,625
COSTS $	3,093,900	--	1,518,351	4,612,251	1,546,950	--	759,176	1,153,063
WELLS	--	--	--	--				
FOOTAGE 15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $	--	--	--	--	--	--	--	--
WELLS	--	--	1	1				
FOOTAGE 17,500 - 19,999	--	--	17,818	17,818	--	--	17,818	17,818
COSTS $	--	--	1,613,458	1,613,458	--	--	1,613,458	1,613,458
WELLS	--	--	--	--				
FOOTAGE 20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $	--	--	--	--	--	--	--	--
TOTAL WELLS	29	127	70	226				
TOTAL FOOTAGE	170,554	202,797	337,139	710,490	5,881	1,597	4,816	3,144
TOTAL COSTS $	11,539,067	7,695,452	14,577,493	33,812,012	397,899	60,594	208,250	149,611

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

NEBRASKA

Table 29

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		2	5	3	10				
FOOTAGE	2,500 - 3,749	7,217	17,056	10,464	34,737	3,609	3,411	3,488	3,474
COSTS $		108,774	228,943	94,316	432,033	54,387	45,789	31,439	43,203
WELLS		12	3	42	57				
FOOTAGE	3,750 - 4,999	51,818	14,720	184,889	251,427	4,318	4,907	4,402	4,411
COSTS $		908,652	175,009	2,108,433	3,192,094	75,721	58,336	50,201	56,002
WELLS		9	--	19	28				
FOOTAGE	5,000 - 7,499	51,296	--	118,575	169,871	5,700	--	6,241	6,067
COSTS $		1,106,787	--	2,306,638	3,413,425	122,976	--	121,402	121,908
WELLS		7	--	3	10				
FOOTAGE	7,500 - 9,999	60,326	--	24,992	85,318	8,618	--	8,331	8,532
COSTS $		2,555,647	--	1,151,383	3,707,030	365,092	--	383,794	370,703
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		30	8	67	105				
TOTAL FOOTAGE		170,657	31,776	338,920	541,353	5,689	3,972	5,059	5,156
TOTAL COSTS $		4,679,860	403,952	5,660,770	10,744,582	155,995	50,494	84,489	102,329

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 30

NEW MEXICO - TOTAL

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		1	1	8	10				
FOOTAGE	0 - 1,249	708	1,152	4,196	6,056	708	1,152	525	606
COSTS $		7,356	98,954	157,386	263,696	7,356	98,954	19,673	26,370
WELLS		31	45	18	94				
FOOTAGE	1,250 - 2,499	64,005	97,072	35,021	196,098	2,065	2,157	1,946	2,086
COSTS $		2,896,520	10,896,361	1,151,419	14,944,300	93,436	242,141	63,968	158,982
WELLS		21	222	20	263				
FOOTAGE	2,500 - 3,749	67,074	698,283	61,744	827,101	3,194	3,145	3,087	3,145
COSTS $		3,383,210	60,890,032	2,741,493	67,014,735	161,105	274,279	137,075	254,809
WELLS		73	67	14	154				
FOOTAGE	3,750 - 4,999	323,336	281,797	60,282	665,415	4,429	4,206	4,306	4,321
COSTS $		18,751,886	20,656,844	3,032,027	42,440,757	256,875	308,311	216,573	275,589
WELLS		86	34	14	134				
FOOTAGE	5,000 - 7,499	509,478	209,611	88,219	807,308	5,924	6,165	6,301	6,025
COSTS $		28,266,730	11,762,546	3,679,248	43,708,524	328,683	345,957	262,803	326,183
WELLS		86	18	18	122				
FOOTAGE	7,500 - 9,999	742,874	156,592	155,809	1,055,275	8,638	8,700	8,656	8,650
COSTS $		49,834,725	10,662,530	6,441,542	66,938,797	579,474	592,363	357,863	548,679
WELLS		38	12	20	70				
FOOTAGE	10,000 - 12,499	429,474	134,567	222,723	786,764	11,302	11,214	11,136	11,239
COSTS $		26,371,691	8,992,189	9,753,837	45,117,717	693,992	749,349	487,692	644,539
WELLS		3	16	6	25				
FOOTAGE	12,500 - 14,999	40,011	215,982	83,034	339,027	13,337	13,499	13,839	13,561
COSTS $		2,735,376	17,410,253	5,371,609	25,517,238	911,792	1,088,141	895,268	1,020,690
WELLS		--	2	2	4				
FOOTAGE	15,000 - 17,499	--	31,158	32,421	63,579	--	15,579	16,211	15,895
COSTS $		--	3,784,274	4,541,964	8,326,238	--	1,892,137	2,270,982	2,081,560
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		339	417	120	876				
TOTAL FOOTAGE		2,176,960	1,826,214	743,449	4,746,623	6,422	4,379	6,195	5,419
TOTAL COSTS $		132,247,494	145,153,983	36,870,525	314,272,002	390,111	348,091	307,254	358,758

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 31

NEW MEXICO - WEST

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		1	--	5	6				
FOOTAGE	0 - 1,249	708	--	3,344	4,052	708	--	669	675
COSTS $		7,356	--	125,463	132,819	7,356	--	25,093	22,137
WELLS		3	31	7	41				
FOOTAGE	1,250 - 2,499	6,020	66,076	12,874	84,970	2,007	2,131	1,839	2,072
COSTS $		94,467	7,743,531	324,523	8,162,521	31,489	249,791	46,360	199,086
WELLS		--	208	6	214				
FOOTAGE	2,500 - 3,749	--	654,569	17,260	671,829	--	3,147	2,877	3,139
COSTS $		--	57,736,635	487,375	58,224,010	--	277,580	81,229	272,075
WELLS		14	50	4	68				
FOOTAGE	3,750 - 4,999	67,081	209,248	16,832	293,161	4,792	4,185	4,208	4,311
COSTS $		2,403,458	15,395,224	761,001	19,159,683	171,676	319,904	190,250	281,760
WELLS		39	16	4	59				
FOOTAGE	5,000 - 7,499	223,014	97,504	24,299	344,817	5,718	6,094	6,075	5,844
COSTS $		10,815,723	5,707,410	1,225,332	17,748,465	277,326	356,713	306,333	300,821
WELLS		10	5	--	15				
FOOTAGE	7,500 - 9,999	80,045	39,335	--	119,380	8,005	7,867	--	7,959
COSTS $		7,400,009	4,300,090	--	11,700,099	740,001	860,018	--	780,007
WELLS		--	--	1	1				
FOOTAGE	10,000 - 12,499	--	--	10,000	10,000	--	--	10,000	10,000
COSTS $		--	--	363,175	363,175	--	--	363,175	363,175
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		67	310	27	404				
TOTAL FOOTAGE		376,868	1,066,732	84,609	1,528,209	5,625	3,441	3,134	3,783
TOTAL COSTS $		20,721,013	91,482,890	3,286,869	115,490,772	309,269	295,106	121,736	285,868

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 32

NEW MEXICO - EAST

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
0 - 1,249	WELLS	--	1	3	4				
	FOOTAGE	--	1,152	852	2,004	--	1,152	284	501
	COSTS $	--	98,954	31,923	130,877	--	98,954	10,641	32,719
1,250 - 2,499	WELLS	28	14	11	53				
	FOOTAGE	57,985	30,996	22,147	111,128	2,071	2,214	2,013	2,097
	COSTS $	2,802,053	3,152,830	826,896	6,781,779	100,073	225,202	75,172	127,958
2,500 - 3,749	WELLS	21	14	14	49				
	FOOTAGE	67,074	43,714	44,484	155,272	3,194	3,122	3,177	3,169
	COSTS $	3,383,210	3,153,397	2,254,118	8,790,725	161,105	225,243	161,008	179,403
3,750 - 4,999	WELLS	59	17	10	86				
	FOOTAGE	256,255	72,549	43,450	372,254	4,343	4,268	4,345	4,329
	COSTS $	16,348,428	4,661,620	2,271,026	23,281,074	277,092	274,213	227,103	270,710
5,000 - 7,499	WELLS	47	18	10	75				
	FOOTAGE	286,464	112,107	63,920	462,491	6,095	6,228	6,392	6,167
	COSTS $	17,451,007	6,055,136	2,453,916	25,960,059	371,298	336,396	245,392	346,134
7,500 - 9,999	WELLS	76	13	18	107				
	FOOTAGE	662,829	117,257	155,809	935,895	8,721	9,020	8,656	8,747
	COSTS $	42,434,716	6,362,440	6,441,542	55,238,698	558,352	489,418	357,863	516,250
10,000 - 12,499	WELLS	38	12	19	69				
	FOOTAGE	429,474	134,567	212,723	776,764	11,302	11,214	11,196	11,257
	COSTS $	26,371,691	8,992,189	9,390,662	44,754,542	693,992	749,349	494,245	648,617
12,500 - 14,999	WELLS	3	16	6	25				
	FOOTAGE	40,011	215,982	83,034	339,027	13,337	13,499	13,839	13,561
	COSTS $	2,735,376	17,410,253	5,371,609	25,517,238	911,792	1,088,141	895,268	1,020,690
15,000 - 17,499	WELLS	--	2	2	4				
	FOOTAGE	--	31,158	32,421	63,579	--	15,579	16,211	15,895
	COSTS $	--	3,784,274	4,541,964	8,326,238	--	1,892,137	2,270,982	2,081,560
17,500 - 19,999	WELLS	--	--	--	--				
	FOOTAGE	--	--	--	--	--	--	--	--
	COSTS $	--	--	--	--	--	--	--	--
20,000 & OVER	WELLS	--	--	--	--				
	FOOTAGE	--	--	--	--	--	--	--	--
	COSTS $	--	--	--	--	--	--	--	--
TOTAL WELLS		272	107	93	472				
TOTAL FOOTAGE		1,800,092	759,482	658,840	3,218,414	6,618	7,098	7,084	6,819
TOTAL COSTS $		111,526,481	53,671,093	33,583,656	198,781,230	410,024	501,599	361,115	421,147

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

NORTH DAKOTA

Table 33

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	2	2				
FOOTAGE	0 - 1,249	--	--	1,095	1,095	--	--	548	548
COSTS $		--	--	37,950	37,950	--	--	18,975	18,975
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		8	--	8	16				
FOOTAGE	2,500 - 3,749	27,424	--	26,561	53,985	3,428	--	3,320	3,374
COSTS $		1,154,376	--	548,876	1,703,252	144,297	--	68,610	106,453
WELLS		8	--	8	16				
FOOTAGE	3,750 - 4,999	34,158	--	34,387	68,545	4,270	--	4,298	4,284
COSTS $		1,362,172	--	630,852	1,993,024	170,272	--	78,857	124,564
WELLS		13	--	22	35				
FOOTAGE	5,000 - 7,499	76,409	--	131,003	207,412	5,878	--	5,955	5,926
COSTS $		3,427,137	--	2,438,656	5,865,793	263,626	--	110,848	167,594
WELLS		21	--	16	37				
FOOTAGE	7,500 - 9,999	174,384	--	137,602	311,986	8,304	--	8,600	8,432
COSTS $		10,293,488	--	3,810,174	14,103,662	490,166	--	238,136	381,180
WELLS		14	--	10	24				
FOOTAGE	10,000 - 12,499	157,447	--	111,953	269,400	11,246	--	11,195	11,225
COSTS $		13,931,255	--	7,038,883	20,970,138	995,090	--	703,888	873,756
WELLS		40	3	4	47				
FOOTAGE	12,500 - 14,999	528,760	42,642	55,673	627,075	13,219	14,214	13,918	13,342
COSTS $		46,802,956	4,024,474	4,187,166	55,014,596	1,170,074	1,341,491	1,046,792	1,170,523
WELLS		--	--	1	1				
FOOTAGE	15,000 - 17,499	--	--	15,300	15,300	--	--	15,300	15,300
COSTS $		--	--	1,530,765	1,530,765	--	--	1,530,765	1,530,765
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		104	3	71	178				
TOTAL FOOTAGE		998,582	42,642	513,574	1,554,798	9,602	14,214	7,233	8,735
TOTAL COSTS $		76,971,384	4,024,474	20,223,322	101,219,180	740,109	1,341,491	284,836	568,647

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 34

OKLAHOMA

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		130	63	64	257				
FOOTAGE	0 - 1,249	110,908	53,511	46,970	211,389	853	849	734	823
COSTS $		4,466,651	2,091,115	1,064,634	7,622,400	34,359	33,192	16,635	29,659
WELLS		229	94	122	445				
FOOTAGE	1,250 - 2,499	429,046	176,284	226,357	831,687	1,874	1,875	1,855	1,869
COSTS $		16,451,848	7,653,221	4,906,830	29,011,899	71,842	81,417	40,220	65,195
WELLS		165	82	127	374				
FOOTAGE	2,500 - 3,749	508,172	253,701	397,737	1,159,610	3,080	3,094	3,132	3,101
COSTS $		22,250,364	12,680,801	10,308,675	45,239,840	134,851	154,644	81,171	120,962
WELLS		104	42	128	274				
FOOTAGE	3,750 - 4,999	454,095	184,509	556,215	1,194,819	4,366	4,393	4,345	4,361
COSTS $		18,118,834	8,369,812	13,433,420	39,922,066	174,220	199,281	104,949	145,701
WELLS		140	195	216	551				
FOOTAGE	5,000 - 7,499	880,779	1,273,925	1,342,715	3,497,419	6,291	6,533	6,216	6,347
COSTS $		43,214,324	65,174,025	38,674,059	147,062,408	308,674	334,226	179,047	266,901
WELLS		167	162	90	419				
FOOTAGE	7,500 - 9,999	1,455,481	1,366,736	773,112	3,595,329	8,715	8,437	8,590	8,581
COSTS $		86,729,298	81,117,035	31,171,897	199,018,230	519,337	500,722	346,354	474,984
WELLS		42	111	29	182				
FOOTAGE	10,000 - 12,499	462,044	1,240,242	327,586	2,029,872	11,001	11,173	11,296	11,153
COSTS $		34,166,405	106,090,004	20,520,605	160,777,014	813,486	955,766	707,607	883,390
WELLS		9	89	27	125				
FOOTAGE	12,500 - 14,999	120,315	1,226,298	362,892	1,709,505	13,368	13,779	13,440	13,676
COSTS $		14,527,939	152,368,480	31,680,924	198,577,343	1,614,216	1,712,005	1,173,368	1,588,619
WELLS		1	20	10	31				
FOOTAGE	15,000 - 17,499	15,700	315,145	161,113	491,958	15,700	15,757	16,111	15,870
COSTS $		2,111,837	54,699,515	25,121,429	81,932,781	2,111,837	2,734,976	2,512,143	2,642,993
WELLS		--	13	7	20				
FOOTAGE	17,500 - 19,999	--	239,546	126,547	366,093	--	18,427	18,078	18,305
COSTS $		--	66,751,371	26,536,650	93,288,021	--	5,134,721	3,790,950	4,064,401
WELLS		--	1	--	1				
FOOTAGE	20,000 & OVER	--	25,825	--	25,825	--	25,825	--	25,825
COSTS $		--	21,412,648	--	21,412,648	--	21,412,649	--	21,412,649
TOTAL WELLS		987	872	820	2,679				
TOTAL FOOTAGE		4,436,540	6,355,722	4,321,244	15,113,506	4,495	7,289	5,270	5,641
TOTAL COSTS $		242,037,500	578,408,027	203,419,123	1,023,864,650	245,225	663,312	248,072	382,182

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS - TOTAL

Table 35

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		306	57	268	631				
FOOTAGE	0 - 1,249	214,333	50,521	202,060	466,914	700	886	754	740
COSTS $		5,947,741	4,325,720	3,056,913	13,330,374	19,437	75,890	11,406	21,126
WELLS		500	78	389	967				
FOOTAGE	1,250 - 2,499	906,329	146,476	726,679	1,779,484	1,813	1,878	1,868	1,840
COSTS $		25,066,448	8,989,674	12,004,799	46,060,921	50,133	115,252	30,861	47,633
WELLS		521	138	323	982				
FOOTAGE	2,500 - 3,749	1,645,277	428,689	1,009,140	3,083,106	3,158	3,106	3,124	3,140
COSTS $		66,700,771	15,744,208	19,794,487	102,239,466	128,025	114,088	61,283	104,114
WELLS		682	123	376	1,181				
FOOTAGE	3,750 - 4,999	3,114,362	529,947	1,648,597	5,292,906	4,567	4,309	4,385	4,482
COSTS $		106,907,707	25,622,646	33,309,603	165,839,956	156,756	208,314	88,589	140,423
WELLS		850	456	569	1,875				
FOOTAGE	5,000 - 7,499	5,146,497	2,821,267	3,461,609	11,429,373	6,055	6,187	6,084	6,096
COSTS $		210,044,808	148,077,211	96,437,840	454,559,859	247,112	324,731	169,487	242,432
WELLS		635	643	397	1,675				
FOOTAGE	7,500 - 9,999	5,476,173	5,736,100	3,402,605	14,614,878	8,624	8,921	8,571	8,725
COSTS $		294,350,129	525,207,346	168,361,307	987,918,782	463,544	816,808	424,084	589,802
WELLS		118	261	173	552				
FOOTAGE	10,000 - 12,499	1,282,666	2,847,056	1,901,920	6,031,642	10,870	10,908	10,994	10,927
COSTS $		100,768,560	312,635,913	150,287,297	563,691,770	853,971	1,197,839	868,713	1,021,181
WELLS		11	84	67	162				
FOOTAGE	12,500 - 14,999	144,064	1,135,898	905,657	2,185,619	13,097	13,523	13,517	13,491
COSTS $		13,645,797	220,338,684	104,664,741	338,649,222	1,240,527	2,623,080	1,562,160	2,090,427
WELLS		--	23	29	52				
FOOTAGE	15,000 - 17,499	--	363,619	466,391	830,010	--	15,810	16,082	15,962
COSTS $		--	91,397,091	97,831,542	189,228,633	--	3,973,787	3,373,502	3,639,012
WELLS		--	3	2	5				
FOOTAGE	17,500 - 19,999	--	53,361	35,775	89,136	--	17,787	17,888	17,827
COSTS $		--	19,459,011	5,805,914	25,264,925	--	6,486,337	2,902,957	5,052,985
WELLS		--	3	1	4				
FOOTAGE	20,000 & OVER	--	69,008	20,496	89,504	--	23,003	20,496	22,376
COSTS $		--	35,610,265	4,089,033	39,699,298	--	11,870,088	4,089,033	9,924,825
TOTAL WELLS		3,623	1,869	2,594	8,086				
TOTAL FOOTAGE		17,929,701	14,181,942	13,780,929	45,892,572	4,949	7,588	5,313	5,676
TOTAL COSTS $		823,431,961	1,407,407,769	695,643,476	2,926,483,206	227,279	753,027	268,174	361,920

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 36

TEXAS RRC DIST. 1

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		95	10	27	132				
FOOTAGE	0 - 1,249	47,507	11,993	20,039	79,539	500	1,199	742	603
COSTS $		1,365,587	343,565	384,150	2,093,302	14,375	34,357	14,228	15,858
WELLS		72	21	63	156				
FOOTAGE	1,250 - 2,499	135,764	37,255	126,058	299,077	1,886	1,774	2,001	1,917
COSTS $		4,084,270	1,096,551	2,555,349	7,736,170	56,726	52,217	40,561	49,591
WELLS		40	4	36	80				
FOOTAGE	2,500 - 3,749	121,374	12,350	109,952	243,676	3,034	3,088	3,054	3,046
COSTS $		4,215,594	295,014	2,169,514	6,680,122	105,390	73,754	60,264	83,502
WELLS		20	7	18	45				
FOOTAGE	3,750 - 4,999	88,605	30,234	78,678	197,517	4,430	4,319	4,371	4,389
COSTS $		2,565,212	1,328,900	1,390,620	5,284,732	128,261	189,843	77,257	117,438
WELLS		29	18	40	87				
FOOTAGE	5,000 - 7,499	169,467	97,432	234,019	500,918	5,844	5,413	5,850	5,758
COSTS $		5,023,244	3,532,762	4,363,454	12,919,460	173,215	196,265	109,086	148,500
WELLS		41	6	9	56				
FOOTAGE	7,500 - 9,999	361,736	54,705	75,303	491,744	8,823	9,118	8,367	8,781
COSTS $		19,574,484	3,334,799	1,937,962	24,847,245	477,426	555,800	215,329	443,701
WELLS		13		2	28				
FOOTAGE	10,000 - 12,499	133,518	139	21,426	294,287	10,271	10,719	10,713	10,510
COSTS $		8,259,187	12,034,996	1,187,973	21,482,156	635,322	925,769	593,987	767,220
WELLS		--	3	1	4				
FOOTAGE	12,500 - 14,999	--	38,555	13,150	51,705	--	12,852	13,150	12,926
COSTS $		--	6,542,745	1,291,988	7,834,733	--	2,180,915	1,291,988	1,958,683
WELLS		--	2	--	2				
FOOTAGE	15,000 - 17,499	--	31,520	--	31,520	--	15,760	--	15,760
COSTS $		--	8,217,539	--	8,217,539	--	4,108,770	--	4,108,770
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		310	84	196	590				
TOTAL FOOTAGE		1,057,971	453,387	678,625	2,189,983	3,413	5,397	3,462	3,712
TOTAL COSTS $		45,087,578	36,726,871	15,281,010	97,095,459	145,444	437,225	77,964	164,569

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 2

Table 37

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		6	2	3	11				
FOOTAGE	0 - 1,249	6,407	1,320	2,904	10,631	1,068	660	968	966
COSTS $		147,314	28,252	35,432	210,998	24,552	14,126	11,811	19,182
WELLS		2	11	17	30				
FOOTAGE	1,250 - 2,499	3,826	20,486	33,245	57,557	1,913	1,862	1,956	1,919
COSTS $		68,913	433,208	427,006	929,127	34,457	39,383	25,118	30,971
WELLS		12	28	44	84				
FOOTAGE	2,500 - 3,749	36,896	92,214	137,543	266,653	3,075	3,293	3,126	3,174
COSTS $		1,064,963	2,158,131	1,934,269	5,157,363	88,747	77,076	43,961	61,397
WELLS		13	18	22	53				
FOOTAGE	3,750 - 4,999	57,426	73,782	97,189	228,397	4,417	4,099	4,418	4,309
COSTS $		1,610,679	1,815,198	1,447,588	4,873,465	123,898	100,844	65,799	91,952
WELLS		27	59	52	138				
FOOTAGE	5,000 - 7,499	161,452	330,203	311,296	802,951	5,980	5,597	5,986	5,818
COSTS $		5,082,933	10,081,207	6,133,034	21,297,174	188,257	170,868	117,943	154,327
WELLS		4	36	41	81				
FOOTAGE	7,500 - 9,999	35,752	314,164	353,386	703,302	8,938	8,727	8,619	8,683
COSTS $		2,405,985	16,443,245	10,614,635	29,463,865	601,496	456,757	258,894	363,751
WELLS		2	15	16	33				
FOOTAGE	10,000 - 12,499	21,136	165,212	176,642	362,990	10,568	11,014	11,040	11,000
COSTS $		1,644,278	14,434,378	11,507,825	27,586,481	822,139	962,292	719,239	835,954
WELLS		--	8	11	19				
FOOTAGE	12,500 - 14,999	--	110,045	148,879	258,924	--	13,756	13,534	13,628
COSTS $		--	18,875,887	17,425,057	36,300,944	--	2,359,486	1,584,096	1,910,576
WELLS		--	2	4	6				
FOOTAGE	15,000 - 17,499	--	31,235	66,233	97,468	--	15,618	16,558	16,245
COSTS $		--	9,157,872	16,369,324	25,527,196	--	4,578,936	4,092,331	4,254,533
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		66	179	210	455				
TOTAL FOOTAGE		322,895	1,138,661	1,327,317	2,788,873	4,892	6,361	6,321	6,129
TOTAL COSTS $		12,025,065	73,427,378	65,894,170	151,346,613	182,198	410,209	313,782	332,630

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 38

TEXAS RRC DIST. 3

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		6	2	5	13				
FOOTAGE	0 - 1,249	3,625	1,890	4,283	9,798	604	945	857	754
COSTS $		94,925	56,548	94,074	245,547	15,821	28,274	18,815	18,888
WELLS		4	3	15	22				
FOOTAGE	1,250 - 2,499	7,720	6,210	30,589	44,519	1,930	2,070	2,039	2,024
COSTS $		329,306	190,852	660,332	1,180,490	82,327	63,617	44,022	53,659
WELLS		13	7	24	44				
FOOTAGE	2,500 - 3,749	44,170	20,197	74,360	138,727	3,398	2,885	3,098	3,153
COSTS $		2,226,000	933,581	1,657,092	4,816,673	171,231	133,369	69,046	109,470
WELLS		13	13	17	43				
FOOTAGE	3,750 - 4,999	55,270	57,230	76,231	188,731	4,252	4,402	4,484	4,389
COSTS $		2,525,542	2,666,442	2,113,459	7,305,443	194,272	205,111	124,321	169,894
WELLS		69	28	70	167				
FOOTAGE	5,000 - 7,499	414,674	171,273	439,343	1,025,290	6,010	6,117	6,276	6,139
COSTS $		22,358,519	11,315,495	13,551,563	47,225,577	324,037	404,125	193,594	282,788
WELLS		38	44	83	165				
FOOTAGE	7,500 - 9,999	326,706	378,561	718,556	1,423,823	8,598	8,604	8,657	8,629
COSTS $		20,747,893	33,306,292	28,920,494	82,974,679	545,997	756,961	348,440	502,877
WELLS		12	31	48	91				
FOOTAGE	10,000 - 12,499	128,885	342,251	529,453	1,000,589	10,740	11,040	11,030	10,995
COSTS $		11,442,223	39,896,664	32,344,161	83,683,048	953,519	1,286,989	673,837	919,594
WELLS		2	21	18	41				
FOOTAGE	12,500 - 14,999	25,600	280,130	243,608	549,338	12,800	13,340	13,534	13,398
COSTS $		1,647,363	33,793,815	24,776,386	60,217,564	823,682	1,609,229	1,376,466	1,468,721
WELLS		--	5	8	13				
FOOTAGE	15,000 - 17,499	--	79,129	127,490	206,619	--	15,826	15,936	15,894
COSTS $		--	17,259,501	17,296,717	34,556,218	--	3,451,900	2,162,090	2,658,171
WELLS		--	1	1	2				
FOOTAGE	17,500 - 19,999	--	18,248	18,027	36,275	--	18,248	18,027	18,138
COSTS $		--	5,538,398	4,304,580	9,842,978	--	5,538,398	4,304,580	4,921,489
WELLS		--	1	--	1				
FOOTAGE	20,000 & OVER	--	20,548	--	20,548	--	20,548	--	20,548
COSTS $		--	16,227,866	--	16,227,866	--	16,227,866	--	16,227,866
TOTAL WELLS		157	156	289	602				
TOTAL FOOTAGE		1,006,650	1,375,667	2,261,940	4,644,257	6,412	8,818	7,827	7,715
TOTAL COSTS $		61,371,771	161,185,454	125,718,858	348,276,083	390,903	1,033,240	435,013	578,532

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 4

Table 39

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	8	10	18				
FOOTAGE	0 - 1,249	--	3,456	6,664	10,120	--	432	666	562
COSTS $		--	58,555	111,686	170,241	--	7,319	11,169	9,458
WELLS		7	6	15	28				
FOOTAGE	1,250 - 2,499	13,202	9,078	28,299	50,579	1,886	1,513	1,887	1,806
COSTS $		305,359	188,743	479,800	973,902	43,623	31,457	31,987	34,782
WELLS		10	4	15	29				
FOOTAGE	2,500 - 3,749	34,132	11,669	45,835	91,636	3,413	2,917	3,056	3,160
COSTS $		1,161,701	333,926	820,234	2,315,861	116,170	83,482	54,682	79,857
WELLS		7	13	17	37				
FOOTAGE	3,750 - 4,999	30,459	58,455	74,916	163,830	4,351	4,497	4,407	4,428
COSTS $		990,714	2,211,982	2,575,211	5,777,907	141,531	170,152	151,483	156,160
WELLS		63	62	70	195				
FOOTAGE	5,000 - 7,499	369,102	389,704	429,715	1,188,521	5,859	6,286	6,139	6,095
COSTS $		10,370,120	18,900,875	12,249,015	41,520,010	164,605	304,853	174,986	212,923
WELLS		16	194	64	274				
FOOTAGE	7,500 - 9,999	130,297	1,664,880	545,626	2,340,803	8,144	8,582	8,525	8,543
COSTS $		5,357,371	131,724,842	28,467,650	165,549,863	334,836	678,994	444,807	604,197
WELLS		2	103	20	125				
FOOTAGE	10,000 - 12,499	21,746	1,106,862	214,135	1,342,743	10,873	10,746	10,707	10,742
COSTS $		1,912,501	122,734,687	16,881,316	141,528,504	956,251	1,191,599	844,066	1,132,228
WELLS		1	24	11	36				
FOOTAGE	12,500 - 14,999	13,414	331,056	146,761	491,231	13,414	13,794	13,342	13,645
COSTS $		2,734,347	66,284,100	21,433,036	90,451,483	2,734,347	2,761,838	1,948,458	2,512,541
WELLS		--	8	6	14				
FOOTAGE	15,000 - 17,499	--	126,190	97,979	224,169	--	15,774	16,330	16,012
COSTS $		--	33,912,307	20,748,463	54,660,770	--	4,239,039	3,458,077	3,904,341
WELLS		--	2	--	2				
FOOTAGE	17,500 - 19,999	--	35,113	--	35,113	--	17,557	--	17,557
COSTS $		--	13,920,613	--	13,920,613	--	6,960,307	--	6,960,307
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	
TOTAL WELLS		106	424	228	758				
TOTAL FOOTAGE		612,352	3,736,463	1,589,930	5,938,745	5,777	8,812	6,973	7,835
TOTAL COSTS $		22,832,113	390,270,630	103,766,411	516,869,154	215,397	920,450	455,116	681,885

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

Table 40

TEXAS RRC DIST. 5

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		27	1	26	54				
FOOTAGE	0 - 1,249	24,280	960	24,051	49,291	899	960	925	913
COSTS $		1,003,116	28,358	394,404	1,425,878	37,152	28,358	15,169	26,405
WELLS		9	--	6	15				
FOOTAGE	1,250 - 2,499	17,209	--	10,710	27,919	1,912	--	1,785	1,861
COSTS $		802,617	--	174,186	976,803	89,180	--	29,031	65,120
WELLS		32	--	8	40				
FOOTAGE	2,500 - 3,749	99,372	--	26,296	125,668	3,105	--	3,287	3,142
COSTS $		5,314,262	--	452,939	5,767,201	166,071	--	56,617	144,180
WELLS		3	--	14	17				
FOOTAGE	3,750 - 4,999	12,660	--	57,412	70,072	4,220	--	4,101	4,122
COSTS $		664,652	--	980,121	1,644,773	221,551	--	70,009	96,751
WELLS		--	4	10	14				
FOOTAGE	5,000 - 7,499	--	25,025	64,252	89,277	--	6,256	6,425	6,377
COSTS $		--	1,024,771	1,585,937	2,610,708	--	256,193	158,594	186,479
WELLS		3	18	19	40				
FOOTAGE	7,500 - 9,999	25,531	165,251	167,067	357,849	8,510	9,181	8,793	8,946
COSTS $		1,837,681	6,941,584	4,842,242	13,621,507	612,560	385,644	254,855	340,538
WELLS		--	22	9	31				
FOOTAGE	10,000 - 12,499	--	250,330	94,512	344,842	--	11,379	10,501	11,124
COSTS $		--	25,512,609	3,548,599	29,061,208	--	1,159,664	394,289	937,458
WELLS		--	4	2	6				
FOOTAGE	12,500 - 14,999	--	56,506	28,240	84,746	--	14,127	14,120	14,124
COSTS $		--	6,742,130	2,433,031	9,175,161	--	1,685,533	1,216,516	1,529,194
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		74	49	94	217				
TOTAL FOOTAGE		179,052	498,072	472,540	1,149,664	2,420	10,165	5,027	5,298
TOTAL COSTS $		9,622,328	40,249,452	14,411,459	64,283,239	130,031	821,417	153,313	296,236

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 6

Table 41

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		6	--	3	9				
FOOTAGE	0 - 1,249	3,069	--	1,535	4,604	512	--	512	512
COSTS $		64,610	--	33,883	98,493	10,768	--	11,294	10,944
WELLS		5	3	15	23				
FOOTAGE	1,250 - 2,499	9,593	7,071	28,482	45,146	1,919	2,357	1,899	1,963
COSTS $		254,291	217,934	612,394	1,084,619	50,858	72,645	40,826	47,157
WELLS		3	3	4	10				
FOOTAGE	2,500 - 3,749	9,717	9,934	12,141	31,792	3,239	3,311	3,035	3,179
COSTS $		352,736	360,278	248,895	961,909	117,579	120,093	62,224	96,191
WELLS		17	3	10	30				
FOOTAGE	3,750 - 4,999	75,178	12,652	46,149	133,979	4,422	4,217	4,615	4,466
COSTS $		3,567,271	1,347,982	1,214,311	6,129,564	209,839	449,327	121,431	204,319
WELLS		45	27	47	119				
FOOTAGE	5,000 - 7,499	279,363	178,657	299,725	757,745	6,208	6,617	6,377	6,368
COSTS $		15,109,194	10,470,377	8,637,163	34,216,734	335,760	387,792	183,769	287,536
WELLS		24	231	34	289				
FOOTAGE	7,500 - 9,999	203,434	2,171,952	281,461	2,656,847	8,476	9,402	8,278	9,193
COSTS $		13,975,218	218,010,082	8,433,518	240,418,818	582,301	943,767	248,045	831,899
WELLS		8	45	13	66				
FOOTAGE	10,000 - 12,499	84,345	484,618	140,689	709,652	10,543	10,769	10,822	10,752
COSTS $		8,964,056	50,211,793	6,359,962	65,535,811	1,120,507	1,115,818	489,228	992,967
WELLS		--	1	3	4				
FOOTAGE	12,500 - 14,999	--	12,500	41,436	53,936	--	12,500	13,812	13,484
COSTS $		--	1,779,934	2,357,917	4,137,851	--	1,779,934	785,972	1,034,463
WELLS		--	--	1	1				
FOOTAGE	15,000 - 17,499	--	--	15,300	15,300	--	--	15,300	15,300
COSTS $		--	--	1,545,930	1,545,930	--	--	1,545,930	1,545,930
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	1	1				
FOOTAGE	20,000 & OVER	--	--	20,496	20,496	--	--	20,496	20,496
COSTS $		--	--	4,089,033	4,089,033	--	--	4,089,033	4,089,033
TOTAL WELLS		108	313	131	552				
TOTAL FOOTAGE		664,699	2,877,384	887,414	4,429,497	6,155	9,193	6,774	8,024
TOTAL COSTS $		42,287,376	282,398,380	33,533,006	358,218,762	391,550	902,231	255,977	648,947

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 7B

Table 42

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		66	30	105	201				
FOOTAGE	0 - 1,249	47,785	27,461	72,670	147,916	724	915	692	736
COSTS $		1,029,924	548,646	821,718	2,400,288	15,605	18,288	7,826	11,942
WELLS		129	23	120	272				
FOOTAGE	1,250 - 2,499	221,283	44,330	209,902	475,515	1,715	1,927	1,749	1,748
COSTS $		4,793,306	987,054	2,616,831	8,397,191	37,157	42,915	21,807	30,872
WELLS		97	39	96	232				
FOOTAGE	2,500 - 3,749	301,418	121,700	300,549	723,667	3,107	3,121	3,131	3,119
COSTS $		7,579,330	3,014,400	4,207,560	14,801,290	78,137	77,292	43,829	63,799
WELLS		135	40	109	284				
FOOTAGE	3,750 - 4,999	595,059	170,995	474,109	1,240,163	4,408	4,275	4,350	4,367
COSTS $		17,523,700	4,746,241	7,333,117	29,603,058	129,805	118,656	67,276	104,236
WELLS		67	14	63	144				
FOOTAGE	5,000 - 7,499	380,877	75,053	362,706	818,636	5,685	5,361	5,757	5,685
COSTS $		14,881,385	2,326,084	6,532,638	23,740,107	222,110	166,149	103,693	164,862
WELLS		2	--	--	2				
FOOTAGE	7,500 - 9,999	17,503	--	--	17,503	8,752	--	--	8,752
COSTS $		1,481,593	--	--	1,481,593	740,797	--	--	740,797
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		496	146	493	1,135				
TOTAL FOOTAGE		1,563,925	439,539	1,419,936	3,423,400	3,153	3,011	2,880	3,016
TOTAL COSTS $		47,289,238	11,622,425	21,511,864	80,423,527	95,341	79,606	43,635	70,858

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 7C

Table 43

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		19	1	16	36				
FOOTAGE	0 - 1,249	19,312	824	14,613	34,749	1,016	824	913	965
COSTS $		668,684	29,020	353,694	1,051,398	35,194	29,020	22,106	29,206
WELLS		38	4	27	69				
FOOTAGE	1,250 - 2,499	75,309	8,334	56,173	139,816	1,982	2,084	2,080	2,026
COSTS $		2,952,668	428,600	1,375,844	4,757,112	77,702	107,150	50,957	68,944
WELLS		37	8	29	74				
FOOTAGE	2,500 - 3,749	111,593	22,765	93,564	227,922	3,016	2,846	3,226	3,080
COSTS $		4,147,468	1,159,117	2,508,367	7,814,952	112,094	144,890	86,495	105,607
WELLS		36	7	30	73				
FOOTAGE	3,750 - 4,999	151,765	29,695	130,616	312,076	4,216	4,242	4,354	4,275
COSTS $		5,910,728	1,354,371	3,314,462	10,579,561	164,187	193,482	110,482	144,926
WELLS		52	119	44	215				
FOOTAGE	5,000 - 7,499	331,924	769,162	269,111	1,370,197	6,383	6,464	6,116	6,373
COSTS $		14,718,860	33,331,980	8,970,089	57,020,929	283,055	280,101	203,866	265,214
WELLS		134	37	11	182				
FOOTAGE	7,500 - 9,999	1,124,504	320,340	95,719	1,540,563	8,392	8,658	8,702	8,465
COSTS $		47,674,338	11,573,715	3,139,360	62,387,413	355,779	312,803	285,396	342,788
WELLS		8	--	6	14				
FOOTAGE	10,000 - 12,499	85,740	--	65,512	151,252	10,718	--	10,919	10,804
COSTS $		5,500,951	--	2,529,556	8,030,507	687,619	--	421,593	573,608
WELLS		--	1	--	1				
FOOTAGE	12,500 - 14,999	--	14,830	--	14,830	--	14,830	--	14,830
COSTS $		--	693,692	--	693,692	--	693,692	--	693,692
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		324	177	163	664				
TOTAL FOOTAGE		1,900,147	1,165,950	725,308	3,791,405	5,865	6,587	4,450	5,710
TOTAL COSTS $		81,573,697	48,570,495	22,191,372	152,335,564	251,771	274,410	136,143	229,421

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 8

Table 44

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		7	--	10	17				
FOOTAGE	0 - 1,249	3,785	--	6,044	9,829	541	--	604	578
COSTS $		192,725	--	296,726	489,451	27,532	--	29,673	28,791
WELLS		37	1	2	40				
FOOTAGE	1,250 - 2,499	64,552	1,996	3,420	69,968	1,745	1,996	1,710	1,749
COSTS $		4,404,992	115,898	113,048	4,633,938	119,054	115,898	56,524	115,848
WELLS		151	26	18	195				
FOOTAGE	2,500 - 3,749	471,311	75,573	54,063	600,947	3,121	2,907	3,004	3,082
COSTS $		23,696,285	4,040,189	2,311,105	30,047,579	156,929	155,392	128,395	154,090
WELLS		212	3	23	238				
FOOTAGE	3,750 - 4,999	991,547	13,246	102,970	1,107,763	4,677	4,415	4,477	4,654
COSTS $		40,435,939	830,765	3,175,120	44,441,824	190,736	276,922	138,049	186,730
WELLS		138	7	27	172				
FOOTAGE	5,000 - 7,499	866,876	41,635	160,218	1,068,729	6,282	5,948	5,934	6,214
COSTS $		40,538,776	2,232,017	5,543,797	48,314,590	293,759	318,860	205,326	280,899
WELLS		300	14	32	346				
FOOTAGE	7,500 - 9,999	2,638,780	112,696	271,153	3,022,629	8,796	8,050	8,474	8,736
COSTS $		147,363,222	5,556,010	10,332,608	163,251,840	491,211	396,858	322,894	471,826
WELLS		54	4	16	74				
FOOTAGE	10,000 - 12,499	583,053	44,261	173,254	800,568	10,797	11,065	10,828	10,818
COSTS $		47,398,058	3,244,364	8,006,803	58,649,225	877,742	811,091	500,425	792,557
WELLS		5	2	4	11				
FOOTAGE	12,500 - 14,999	66,050	26,825	55,946	148,821	13,210	13,413	13,987	13,529
COSTS $		6,494,975	1,906,000	5,085,817	13,486,792	1,298,995	953,000	1,271,454	1,226,072
WELLS		--	1	1	2				
FOOTAGE	15,000 - 17,499	--	16,860	15,430	32,290	--	16,860	15,430	16,145
COSTS $		--	4,776,944	2,374,178	7,151,122	--	4,776,944	2,374,178	3,575,561
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	1	--	1				
FOOTAGE	20,000 & OVER	--	22,300	--	22,300	--	22,300	--	22,300
COSTS $		--	8,356,925	--	8,356,925	--	8,356,925	--	8,356,925
TOTAL WELLS		904	59	133	1,096				
TOTAL FOOTAGE		5,685,954	355,392	842,498	6,883,844	6,290	6,024	6,335	6,281
TOTAL COSTS $		310,524,972	31,059,112	37,239,202	378,823,286	343,501	526,426	279,994	345,642

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 8A

Table 45

DEPTH INTERVAL (FEET)		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
WELLS		--	--	3	3				
FOOTAGE	0 - 1,249	--	--	1,500	1,500	--	--	500	500
COSTS $		--	--	43,951	43,951	--	--	14,650	14,650
WELLS		16	--	2	18				
FOOTAGE	1,250 - 2,499	32,771	--	4,234	37,005	2,048	--	2,117	2,056
COSTS $		1,722,900	--	330,797	2,053,697	107,681	--	165,399	114,094
WELLS		34	--	6	40				
FOOTAGE	2,500 - 3,749	111,995	--	18,916	130,911	3,294	--	3,153	3,273
COSTS $		3,828,009	--	391,974	4,219,983	112,589	--	65,329	105,500
WELLS		143	1	41	185				
FOOTAGE	3,750 - 4,999	681,443	4,988	174,757	861,188	4,765	4,988	4,262	4,655
COSTS $		19,751,790	148,380	3,912,319	23,812,489	138,124	148,380	95,422	128,716
WELLS		240	--	45	285				
FOOTAGE	5,000 - 7,499	1,466,920	--	278,382	1,745,302	6,112	--	6,186	6,124
COSTS $		54,508,027	--	7,083,579	61,591,606	227,117	--	157,413	216,111
WELLS		45	1	25	71				
FOOTAGE	7,500 - 9,999	372,029	7,989	212,751	592,769	8,267	7,989	8,510	8,349
COSTS $		18,844,129	271,416	7,094,129	26,209,674	418,758	271,416	283,765	369,150
WELLS		7	--	18	25				
FOOTAGE	10,000 - 12,499	82,493	--	207,253	289,746	11,785	--	11,514	11,590
COSTS $		4,913,573	--	8,775,254	13,688,827	701,939	--	487,514	547,553
WELLS		2	--	6	8				
FOOTAGE	12,500 - 14,999	26,500	--	78,616	105,116	13,250	--	13,103	13,140
COSTS $		1,993,054	--	3,729,548	5,722,602	996,527	--	621,591	715,325
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		487	2	146	635				
TOTAL FOOTAGE		2,774,151	12,977	976,409	3,763,537	5,696	6,489	6,688	5,927
TOTAL COSTS $		105,561,482	419,796	31,361,551	137,342,829	216,759	209,898	214,805	216,288

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 9

Table 46

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		74	2	59	135				
FOOTAGE	0 - 1,249	58,563	1,506	47,197	107,266	791	753	800	795
COSTS $		1,380,856	37,096	469,488	1,887,440	18,660	18,548	7,957	13,981
WELLS		180	1	103	284				
FOOTAGE	1,250 - 2,499	323,660	1,675	187,756	513,091	1,798	1,675	1,823	1,807
COSTS $		5,281,168	48,188	2,272,333	7,601,689	29,340	48,188	22,061	26,767
WELLS		18	--	29	47				
FOOTAGE	2,500 - 3,749	56,219	--	90,858	147,077	3,123	--	3,133	3,129
COSTS $		1,079,663	--	1,182,527	2,262,190	59,981	--	40,777	48,132
WELLS		80	11	70	161				
FOOTAGE	3,750 - 4,999	363,557	48,002	312,596	724,155	4,544	4,364	4,466	4,498
COSTS $		10,834,664	1,522,408	4,730,283	17,087,355	135,433	138,401	67,575	106,133
WELLS		96	84	66	246				
FOOTAGE	5,000 - 7,499	555,702	525,565	388,763	1,470,030	5,789	6,257	5,890	5,976
COSTS $		20,827,713	24,096,496	7,137,498	52,061,707	216,955	286,863	108,144	211,633
WELLS		19	6	19	44				
FOOTAGE	7,500 - 9,999	160,605	48,432	159,885	368,922	8,453	8,072	8,415	8,385
COSTS $		7,216,821	2,825,070	3,540,432	13,582,323	379,833	470,845	186,339	308,689
WELLS		--	1	--	1				
FOOTAGE	10,000 - 12,499	--	10,994	--	10,994	--	10,994	--	10,994
COSTS $		--	1,201,694	--	1,201,694	--	1,201,694	--	1,201,694
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		467	105	346	918				
TOTAL FOOTAGE		1,518,306	636,174	1,187,055	3,341,535	3,251	6,059	3,431	3,640
TOTAL COSTS $		46,620,885	29,730,952	19,332,561	95,684,398	99,831	283,152	55,874	104,231

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS RRC DIST. 10

Table 47

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
0 - 1,249	WELLS	--	--	1	1	--	--	560	560
	FOOTAGE	--	--	560	560	--	--	17,707	17,707
	COSTS $	--	--	17,707	17,707				
1,250 - 2,499	WELLS	1	2	4	7				
	FOOTAGE	1,440	4,191	7,811	13,442	1,440	2,096	1,953	1,920
	COSTS $	66,658	250,118	386,879	703,655	66,658	125,059	96,720	100,522
2,500 - 3,749	WELLS	74	19	13	106				
	FOOTAGE	247,080	62,287	42,343	351,710	3,339	3,278	3,257	3,318
	COSTS $	12,034,760	3,449,572	1,553,335	17,037,667	162,632	181,556	119,487	160,733
3,750 - 4,999	WELLS	3	2	4	9				
	FOOTAGE	11,393	8,710	18,050	38,153	3,798	4,355	4,513	4,239
	COSTS $	526,816	421,897	426,991	1,375,704	175,605	210,949	106,748	152,856
5,000 - 7,499	WELLS	24	23	25	72				
	FOOTAGE	150,140	147,611	159,084	456,835	6,256	6,418	6,363	6,345
	COSTS $	6,626,037	7,449,416	4,662,306	18,737,759	276,085	323,888	186,492	260,247
7,500 - 9,999	WELLS	6	23	25	54				
	FOOTAGE	53,515	200,766	214,218	468,499	8,919	8,729	8,569	8,676
	COSTS $	2,685,730	9,910,870	8,349,369	20,945,969	447,622	430,907	333,975	387,888
10,000 - 12,499	WELLS	11	15	6	32				
	FOOTAGE	131,058	172,582	70,103	373,743	11,914	11,505	11,684	11,679
	COSTS $	8,242,796	9,135,788	3,089,434	20,468,018	749,345	609,053	514,906	639,626
12,500 - 14,999	WELLS	1	10	4	15				
	FOOTAGE	12,500	132,144	56,126	200,770	12,500	13,214	14,032	13,385
	COSTS $	776,058	9,131,899	3,004,911	12,912,868	776,058	913,190	751,228	860,858
15,000 - 17,499	WELLS	--	2	4	6				
	FOOTAGE	--	31,934	62,230	94,164	--	15,967	15,558	15,694
	COSTS $	--	2,599,161	3,963,997	6,563,158	--	1,299,581	990,999	1,093,860
17,500 - 19,999	WELLS	--	--	1	1				
	FOOTAGE	--	--	17,748	17,748	--	--	17,748	17,748
	COSTS $	--	--	1,501,334	1,501,334	--	--	1,501,334	1,501,334
20,000 & OVER	WELLS	--	1	--	1				
	FOOTAGE	--	26,160	--	26,160	--	26,160	--	26,160
	COSTS $	--	11,025,474	--	11,025,474	--	11,025,474	--	11,025,474
TOTAL WELLS		120	97	87	304				
TOTAL FOOTAGE		607,126	786,385	648,273	2,041,784	5,059	8,107	7,451	6,716
TOTAL COSTS $		30,958,855	53,374,195	26,956,263	111,289,313	257,990	550,249	309,842	366,083

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

TEXAS - OFFSHORE

Table 48

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	1	--	1				
FOOTAGE	0 - 1,249	--	1,111	--	1,111	--	1,111	--	1,111
COSTS $		--	3,195,680	--	3,195,680	--	3,195,680	--	3,195,680
WELLS		--	3	--	3				
FOOTAGE	1,250 - 2,499	--	5,850	--	5,850	--	1,950	--	1,950
COSTS $		--	5,032,528	--	5,032,528	--	1,677,509	--	1,677,509
WELLS		--	--	1	1				
FOOTAGE	2,500 - 3,749	--	--	2,720	2,720	--	--	2,720	2,720
COSTS $		--	--	356,676	356,676	--	--	356,676	356,676
WELLS		--	5	1	6				
FOOTAGE	3,750 - 4,999	--	21,958	4,924	26,882	--	4,392	4,924	4,480
COSTS $		--	7,228,080	696,001	7,924,081	--	1,445,616	696,001	1,320,680
WELLS		--	11	10	21				
FOOTAGE	5,000 - 7,499	--	69,947	64,995	134,942	--	6,359	6,500	6,426
COSTS $		--	23,315,731	9,987,767	33,303,498	--	2,119,612	998,777	1,585,881
WELLS		3	33	35	71				
FOOTAGE	7,500 - 9,999	25,781	296,364	307,480	629,625	8,594	8,981	8,785	8,868
COSTS $		5,185,664	85,309,421	52,688,908	143,183,993	1,728,555	2,585,134	1,505,397	2,016,676
WELLS		1	12	19	32				
FOOTAGE	10,000 - 12,499	10,692	130,603	208,941	350,236	10,692	10,884	10,997	10,945
COSTS $		2,490,937	34,228,940	56,056,414	92,776,291	2,490,937	2,852,412	2,950,338	2,899,259
WELLS		--	10	7	17				
FOOTAGE	12,500 - 14,999	--	133,307	92,895	226,202	--	13,331	13,271	13,306
COSTS $		--	74,588,482	23,127,050	97,715,532	--	7,458,848	3,303,864	5,747,973
WELLS		--	3	5	8				
FOOTAGE	15,000 - 17,499	--	46,751	81,729	128,480	--	15,584	16,346	16,060
COSTS $		--	15,473,767	35,532,933	51,006,700	--	5,157,923	7,106,587	6,375,838
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	
TOTAL WELLS		4	78	78	160				
TOTAL FOOTAGE		36,473	705,891	763,684	1,506,048	9,118	9,050	9,791	9,413
TOTAL COSTS $		7,676,601	248,372,629	178,445,749	434,494,979	1,919,150	3,184,265	2,287,766	2,715,594

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

UTAH

Table 49

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		7	3	2	12				
FOOTAGE	0 - 1,249	2,045	2,956	340	5,341	292	985	170	445
COSTS $		89,959	107,574	80,071	277,604	12,851	35,858	40,036	23,134
WELLS		--	--	3	3				
FOOTAGE	1,250 - 2,499	--	--	5,309	5,309	--	--	1,770	1,770
COSTS $		--	--	622,886	622,886	--	--	207,629	207,629
WELLS		--	3	3	6				
FOOTAGE	2,500 - 3,749	--	10,220	10,476	20,696	--	3,407	3,492	3,449
COSTS $		--	460,019	776,187	1,236,206	--	153,340	258,729	206,034
WELLS		2	5	1	8				
FOOTAGE	3,750 - 4,999	8,109	22,049	4,100	34,258	4,055	4,410	4,100	4,282
COSTS $		486,850	977,242	111,937	1,576,029	243,425	195,448	111,937	197,004
WELLS		23	4	12	39				
FOOTAGE	5,000 - 7,499	144,323	27,088	70,924	242,335	6,275	6,772	5,910	6,214
COSTS $		7,847,992	1,954,302	2,953,980	12,756,274	341,217	488,576	246,165	327,084
WELLS		4	1	--	5				
FOOTAGE	7,500 - 9,999	33,438	7,900	--	41,338	8,360	7,900	--	8,268
COSTS $		2,908,036	697,157	--	3,605,193	727,009	697,157	--	721,039
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		5	--	--	5				
FOOTAGE	12,500 - 14,999	69,013	--	--	69,013	13,803	--	--	13,803
COSTS $		10,637,792	--	--	10,637,792	2,127,559	--	--	2,127,559
WELLS		--	--	3	3				
FOOTAGE	15,000 - 17,499	--	--	48,733	48,733	--	--	16,244	16,244
COSTS $		--	--	11,253,287	11,253,287	--	--	3,751,096	3,751,096
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		41	16	24	81				
TOTAL FOOTAGE		256,928	70,213	139,882	467,023	6,267	4,388	5,828	5,766
TOTAL COSTS $		21,970,629	4,196,294	15,798,348	41,965,271	535,869	262,268	658,265	518,090

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

WYOMING

Table 50

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		18	17	14	49				
FOOTAGE	0 - 1,249	13,429	11,346	9,846	34,621	746	667	703	707
COSTS $		897,337	383,210	214,891	1,495,438	49,852	22,542	15,349	30,519
WELLS		29	10	8	47				
FOOTAGE	1,250 - 2,499	54,190	16,492	13,106	83,788	1,869	1,649	1,638	1,783
COSTS $		6,157,113	1,277,968	567,063	8,002,144	212,314	127,797	70,883	170,258
WELLS		16	11	6	33				
FOOTAGE	2,500 - 3,749	53,117	38,142	18,758	110,017	3,320	3,467	3,126	3,334
COSTS $		4,359,446	3,573,052	803,577	8,736,075	272,465	324,823	133,930	264,730
WELLS		18	3	13	34				
FOOTAGE	3,750 - 4,999	77,458	12,842	57,305	147,605	4,303	4,281	4,408	4,341
COSTS $		7,975,906	1,106,418	2,591,915	11,674,239	443,106	368,806	199,378	343,360
WELLS		28	12	53	93				
FOOTAGE	5,000 - 7,499	188,596	80,484	354,306	623,386	6,736	6,707	6,685	6,703
COSTS $		10,231,644	6,303,678	9,397,728	25,933,050	365,416	525,307	177,316	278,850
WELLS		30	54	82	166				
FOOTAGE	7,500 - 9,999	262,647	451,329	699,495	1,413,471	8,755	8,358	8,530	8,515
COSTS $		15,413,158	38,206,151	16,788,990	70,408,299	513,772	707,521	204,744	424,146
WELLS		18	26	36	80				
FOOTAGE	10,000 - 12,499	198,483	293,472	394,199	886,154	11,027	11,287	10,950	11,077
COSTS $		14,976,866	31,105,215	12,471,529	58,553,610	832,048	1,196,354	310,431	731,920
WELLS		8	27	15	50				
FOOTAGE	12,500 - 14,999	103,146	347,922	201,884	652,952	12,893	12,886	13,459	13,059
COSTS $		7,867,802	40,971,857	12,231,379	61,071,038	983,475	1,517,476	815,425	1,221,421
WELLS		1	3	4	8				
FOOTAGE	15,000 - 17,499	15,445	46,380	63,958	125,783	15,445	15,460	15,990	15,723
COSTS $		1,326,065	8,139,822	9,150,046	18,615,933	1,326,065	2,713,274	2,287,512	2,326,992
WELLS		--	1	--	1				
FOOTAGE	17,500 - 19,999	--	19,299	--	19,299	--	19,299	--	19,299
COSTS $		--	7,038,943	--	7,038,943	--	7,038,943	--	7,038,943
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		166	164	231	561				
TOTAL FOOTAGE		966,511	1,317,708	1,812,857	4,097,076	5,822	8,035	7,848	7,303
TOTAL COSTS $		69,205,337	138,106,314	64,217,118	271,528,769	416,900	842,112	277,996	484,009

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

APPALACHIAN*

Table 51

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		44	9	14	67				
FOOTAGE	0 - 1,249	40,390	8,120	8,653	57,163	918	902	618	853
COSTS $		1,052,290	242,241	198,417	1,492,948	23,916	26,916	14,173	22,283
WELLS		113	198	13	324				
FOOTAGE	1,250 - 2,499	215,682	398,761	26,263	640,706	1,909	2,014	2,020	1,977
COSTS $		5,392,611	12,224,288	720,298	18,337,197	47,722	61,739	55,408	56,596
WELLS		273	405	47	725				
FOOTAGE	2,500 - 3,749	847,596	1,325,341	150,082	2,323,019	3,105	3,272	3,193	3,204
COSTS $		20,343,670	44,868,459	3,012,591	68,224,720	74,519	110,786	64,098	94,103
WELLS		261	645	41	947				
FOOTAGE	3,750 - 4,999	1,131,791	2,838,553	173,340	4,143,684	4,336	4,401	4,228	4,376
COSTS $		27,347,851	95,707,227	4,004,657	127,059,735	104,781	148,383	97,675	134,171
WELLS		180	730	25	935				
FOOTAGE	5,000 - 7,499	1,040,619	4,062,955	147,465	5,251,039	5,781	5,566	5,899	5,616
COSTS $		24,945,751	137,282,978	3,893,742	166,122,471	138,588	188,059	155,750	177,671
WELLS		1	18	10	29				
FOOTAGE	7,500 - 9,999	8,338	150,459	86,869	245,666	8,338	8,359	8,687	8,471
COSTS $		194,414	10,937,301	4,315,990	15,447,705	194,414	607,628	431,599	532,680
WELLS		--	1	1	2				
FOOTAGE	10,000 - 12,499	--	12,203	10,196	22,399	--	12,203	10,196	11,200
COSTS $		--	1,044,258	147,973	1,192,231	--	1,044,258	147,973	596,116
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	1	--	1				
FOOTAGE	20,000 & OVER	--	22,000	--	22,000	--	22,000	--	22,000
COSTS $		--	5,261,080	--	5,261,080	--	5,261,080	--	5,261,080
TOTAL WELLS		872	2,007	151	3,030				
TOTAL FOOTAGE		3,284,416	8,818,392	602,868	12,705,676	3,767	4,394	3,993	4,193
TOTAL COSTS $		79,276,587	307,567,832	16,293,668	403,138,087	90,914	153,248	107,905	133,049

* Includes New York, Ohio, Pennsylvania, and West Virginia.

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

OFFSHORE FED - TOTAL*

Table 52

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	1	1				
FOOTAGE	1,250 - 2,499	--	--	2,410	2,410	--	--	2,410	2,410
COSTS $		--	--	834,502	834,502	--	--	834,502	834,502
WELLS		--	--	3	3				
FOOTAGE	2,500 - 3,749	--	--	9,690	9,690	--	--	3,230	3,230
COSTS $		--	--	2,699,466	2,699,466	--	--	899,822	899,822
WELLS		--	--	2	2				
FOOTAGE	3,750 - 4,999	--	--	8,750	8,750	--	--	4,375	4,375
COSTS $		--	--	3,111,649	3,111,649	--	--	1,555,825	1,555,825
WELLS		1	1	8	10				
FOOTAGE	5,000 - 7,499	6,198	6,787	54,224	67,209	6,198	6,787	6,778	6,721
COSTS $		1,058,866	2,243,631	19,640,796	22,943,293	1,058,866	2,243,631	2,455,100	2,294,329
WELLS		4	2	19	25				
FOOTAGE	7,500 - 9,999	36,126	18,465	165,553	220,144	9,032	9,233	8,713	8,806
COSTS $		8,125,462	6,520,860	76,659,541	91,305,863	2,031,366	3,260,430	4,034,713	3,652,235
WELLS		6	6	23	35				
FOOTAGE	10,000 - 12,499	70,367	69,436	254,506	394,309	11,728	11,573	11,065	11,266
COSTS $		23,510,685	20,524,015	160,526,753	204,561,453	3,918,448	3,420,669	6,979,424	5,844,613
WELLS		6	2	15	23				
FOOTAGE	12,500 - 14,999	81,196	26,753	201,562	309,511	13,533	13,377	13,437	13,457
COSTS $		26,083,234	10,021,539	90,752,850	126,857,623	4,347,206	5,010,770	6,050,190	5,515,549
WELLS		2	--	9	11				
FOOTAGE	15,000 - 17,499	32,492	--	150,647	183,139	16,246	--	16,739	16,649
COSTS $		25,221,079	--	88,445,307	113,666,386	12,610,540	--	9,827,256	10,333,308
WELLS		1	1	2	4				
FOOTAGE	17,500 - 19,999	19,705	19,058	36,372	75,135	19,705	19,058	18,186	18,784
COSTS $		4,452,239	6,251,008	24,303,405	35,006,652	4,452,239	6,251,008	12,151,703	8,751,663
WELLS		--	--	3	3				
FOOTAGE	20,000 & OVER	--	--	69,102	69,102	--	--	23,034	23,034
COSTS $		--	--	55,600,158	55,600,158	--	--	18,533,387	18,533,387
TOTAL WELLS		20	12	85	117				
TOTAL FOOTAGE		246,084	140,499	952,816	1,339,399	12,304	11,708	11,210	11,448
TOTAL COSTS $		88,451,565	45,561,053	522,574,427	656,587,045	4,422,579	3,796,755	6,147,935	5,611,855

* Includes Offshore Federal Waters-Alaska, and Offshore Federal Waters-Pacific Coast which are not shown separately.

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1989

OFFSHORE FED. - GULF NORTH

Table 53

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	1	1				
FOOTAGE	1,250 - 2,499	--	--	2,410	2,410	--	--	2,410	2,410
COSTS $		--	--	834,502	834,502	--	--	834,502	834,502
WELLS		--	--	3	3				
FOOTAGE	2,500 - 3,749	--	--	9,690	9,690	--	--	3,230	3,230
COSTS $		--	--	2,699,466	2,699,466	--	--	899,822	899,822
WELLS		--	--	2	2				
FOOTAGE	3,750 - 4,999	--	--	8,750	8,750	--	--	4,375	4,375
COSTS $		--	--	3,111,649	3,111,649	--	--	1,555,825	1,555,825
WELLS		--	1	8	9				
FOOTAGE	5,000 - 7,499	--	6,787	54,224	61,011	--	6,787	6,778	6,779
COSTS $		--	2,243,631	19,640,796	21,884,427	--	2,243,631	2,455,100	2,431,603
WELLS		3	2	19	24				
FOOTAGE	7,500 - 9,999	27,456	18,465	165,553	211,474	9,152	9,233	8,713	8,811
COSTS $		6,053,506	6,520,860	76,659,541	89,233,907	2,017,835	3,260,430	4,034,713	3,718,080
WELLS		6	6	22	34				
FOOTAGE	10,000 - 12,499	70,367	69,436	244,506	384,309	11,728	11,573	11,114	11,303
COSTS $		23,510,685	20,524,015	104,275,869	148,310,569	3,918,448	3,420,669	4,739,812	4,362,076
WELLS		4	2	14	20				
FOOTAGE	12,500 - 14,999	55,441	26,753	188,430	270,624	13,860	13,377	13,459	13,531
COSTS $		17,082,200	10,021,539	86,431,897	113,535,636	4,270,550	5,010,770	6,173,707	5,676,782
WELLS		2	--	9	11				
FOOTAGE	15,000 - 17,499	32,492	--	150,647	183,139	16,246	--	16,739	16,649
COSTS $		25,221,079	--	88,445,307	113,666,386	12,610,540	--	9,827,256	10,333,308
WELLS		1	1	2	4				
FOOTAGE	17,500 - 19,999	19,705	19,058	36,372	75,135	19,705	19,058	18,186	18,784
COSTS $		4,452,239	6,251,008	24,303,405	35,006,652	4,452,239	6,251,008	12,151,703	8,751,663
WELLS		--	--	3	3				
FOOTAGE	20,000 & OVER	--	--	69,102	69,102	--	--	23,034	23,034
COSTS $		--	--	55,600,158	55,600,158	--	--	18,533,387	18,533,387
TOTAL WELLS		16	12	83	111				
TOTAL FOOTAGE		205,461	140,499	929,684	1,275,644	12,841	11,708	11,201	11,492
TOTAL COSTS $		76,319,709	45,561,053	462,002,590	583,883,352	4,769,982	3,796,755	5,566,297	5,260,211

APPENDIXES

Isolating Drilling Cost Changes in the Joint Association Survey

Since total JAS drilling costs (hereafter referred to as expenditures, expenditures per well and expenditures per foot) reflect the depth, type and location of wells drilled, average expenditures per well and expenditures per foot will be susceptible to fluctuations in the well population.

For example, in general, though not without exception, exploratory wells are more expensive to drill than are development wells, gas wells are more expensive than oil wells, oil wells are more expensive than dry holes, offshore wells are more expensive than onshore wells, and deeper wells are more expensive than shallow wells. Therefore, shifts in activity among these general categories can cause expenditures per foot and per well to increase or decrease.

However, changes in "drilling costs" are typically thought of as changes in the cost of drilling comparable wells in different years, much as changes in the Consumer Price Index reflect changes in a similar group of items. This means that in order to compare the impact of price change alone on the JAS drilling expenditures from one year to another, one must either compare the costs of similar type wells at similar depths in similar locations, or somehow hold these factors constant for the entire well population.

The JAS isn't intended to provide drilling cost data based on price alone, because most JAS users aren't interested in knowing how the cost to drill a single well varies from one year to another. The reason: the character of the well population can fluctuate dramatically from one year to the next. However, by accounting for differences in depth, type and general location of wells drilled, the JAS drilling cost data give companies a detailed basis for comparison with their own drilling experiences.

Methodology

The JAS provides estimated expenditures per well and per foot for wells by type, depth and location. A composite drilling cost index was derived by redistributing post-1984 JAS expenditures on the 1984 well population distribution. By holding these factors--depth, type and general location of the well--constant to 1984, changes in drilling costs alone were calculated for 1987-1989.

More specifically, the percentage of total wells and footage drilled represented by the smallest possible division in the data in 1984 was calculated and used to weight 1984-1989 expenditures per well and per foot. These weighted costs were then summed to arrive at an adjusted average cost per well and average cost per foot for oil, gas and dry holes, onshore, offshore and total U.S.

In this way, we are able to isolate the effect on expenditures of changes in drilling costs alone, and by difference, to determine the effect of compositional shifts in the JAS well population on the drilling expenditures. This gives us the ability to observe drilling cost changes from year to year.

Drilling Costs Decreased

Redistributing the 1989 JAS drilling expenditures to reflect the depth, type and general location of wells drilled in 1984 reveals an actual decrease in drilling costs. However, unadjusted expenditures increased slightly -- this is due to the increase in expenditures attributable to year-to-year changes in the well population. Tables 1-3 show the 1987-1989 drilling cost index and changes in drilling costs on the new basis.

Adjusted expenditures increased by 2.1 percent for cost per well and 4.7 percent for cost per foot. Therefore, the increase in costs per well and per foot reported in the JAS for that year can be attributable to year-to-year changes in depth, type and general location of wells.

Total U.S. costs reflect, proportionately, the changes in onshore and offshore costs. Overall, the decrease in drilling costs during 1989 was led by a decrease of 1.5 percent in oil well costs. Although total drilling costs decreased by 1.4 percent, gas well costs increased by 8.4 percent.

Offshore cost per well and per foot increased from 1988, by 6.8 percent and 7 percent respectively. Offshore gas drilling costs increased by 6.1 percent for cost per well and 7.1 percent for cost per foot.

Onshore drilling costs also increased during 1989, by 7 percent for cost per well and 4 percent for cost per foot. Oil and dry hole costs decreased by 2.5 percent and 2.7 percent respectively, while gas well costs increased by 14.8 percent.

TABLE 1

ADJUSTED AVERAGE DRILLING COST INDICES--UNITED STATES
(1984=100)

	1987 AVG PER WELL	% CHG	1987 $ PER FOOT	% CHG	1988 AVG PER WELL	% CHG	1988 $ PER FOOT	% CHG	1989 AVG PER WELL	% CHG	1989 $ PER FOOT	% CHG
OIL:												
"Cost"	78.4	-10.4	78.1	-10.6	84.5	7.8	84.2	7.8	83.2	-1.5	83.1	-1.3
"Expenditure"	93.9	-13.7	88.0	-14.6	106.6	13.5	100.0	13.6	107.7	1.0	97.9	-2.1
% Change	-16.5		-11.3		-20.7		-15.8		-22.7		-15.1	
GAS:												
"Cost"	73.6	-17.6	73.3	-17.4	80.8	9.8	80.4	9.7	87.6	8.4	87.2	8.5
"Expenditure"	77.7	-27.3	78.3	-25.2	94.0	21.0	95.3	21.7	93.5	-0.5	97.8	2.6
% Change	-5.3		-6.4		-14.0		-15.6		-6.3		-10.8	
DRY:												
"Cost"	67.2	-25.8	67.1	-25.6	73.8	9.8	73.8	10.0	73.6	-0.3	73.6	-0.3
"Expenditure"	78.7	-33.4	76.0	-33.3	111.3	41.4	99.7	31.2	108.0	-3.0	100.6	0.9
% Change	-14.6		-11.7		-33.7		-26.0		-31.9		-26.8	
TOTAL:												
"Cost"	74.9	-15.8	73.6	-17.0	83.9	12.0	80.6	9.5	82.7	-1.4	77.5	-3.8
"Expenditure"	85.7	-23.3	81.7	-23.6	108.7	26.8	97.7	19.6	111.0	2.1	102.3	4.7
% Change	-12.6		-9.9		-22.8		-17.5		-25.5		-24.2	

"Expenditure" based on JAS estimated drilling expenditures which are a function of depth, type, general location of wells drilled in that year. "Cost" numbers are redistributed well expenditures based on 1984 drilling activity.

Source: American Petroleum Institute, Joint Association Survey on Drilling Costs, 1984-1989.

TABLE 2

ADJUSTED AVERAGE DRILLING COST INDICES--ONSHORE
(1984=100)

	1987 AVG PER WELL	% CHG	1987 $ PER FOOT	% CHG	1988 AVG PER WELL	% CHG	1988 $ PER FOOT	% CHG	1989 AVG PER WELL	% CHG	1989 $ PER FOOT	% CHG
OIL:												
"Cost"	78.6	-10.3	78.3	-10.4	85.7	9.0	85.5	9.2	83.6	-2.5	83.5	-2.3
"Expenditure"	88.1	-12.2	82.9	-13.6	104.1	18.2	92.0	11.0	102.7	-1.3	94.0	2.2
% Change	-10.8		-5.5		-17.7		-7.1		-18.6		-11.2	
GAS:												
"Cost"	73.8	-16.1	73.6	-15.8	81.2	10.0	81.0	10.1	93.2	14.8	88.1	8.8
"Expenditure"	80.2	-19.1	80.8	-17.6	93.0	16.0	94.9	17.5	94.9	2.0	99.6	5.0
% Change	-8.0		-8.9		-12.7		-14.6		-1.8		-11.5	
DRY:												
"Cost"	70.7	-21.4	70.6	-21.4	78.0	10.3	77.9	10.3	75.9	-2.7	[illegible]	-2.7
"Expenditure"	75.0	-32.1	72.9	-32.0	95.1	26.8	87.3	19.8	91.6	-3.7	[illegible]	-0.5
% Change	-5.7		-3.2		-18.0		-10.8		-17.1		-12	
TOTAL:												
"Cost"	76.3	-13.7	75.0	-14.8	85.9	12.6	82.9	10.5	91.9	7.0	86.2	4.0
"Expenditure"	60.2	-41.6	57.6	-42.1	102.2	69.8	92.9	61.3	105.4	3.1	98.1	5.6
% Change	26.7		30.2		-15.9		-10.8		-12.8		-12.1	

"Expenditure" based on JAS estimated drilling expenditures which are a function of depth, type, general location of wells drilled in that year. "Cost" numbers are redistributed well expenditures based on 1984 drilling activity.

Source: American Petroleum Institute, Joint Association Survey on Drilling Costs, 1984-1989.

TABLE 3

ADJUSTED AVERAGE DRILLING COST INDICES--OFFSHORE
(1984=100)

	1987 AVG PER WELL	% CHG	1987 $ PER FOOT	% CHG	1988 AVG PER WELL	% CHG	1988 $ PER FOOT	% CHG	1989 AVG PER WELL	% CHG	1989 $ PER FOOT	% CHG
OIL:												
"Cost"	77.0	-10.6	76.3	-11.6	76.3	-0.9	75.9	-0.5	80.6	5.6	79.8	5.1
"Expenditure"	114.2	-0.6	106.2	-3.4	105.8	-7.4	93.9	-11.6	112.1	6.0	95.2	1.4
% Change	-32.6		-28.2		-27.9		-19.2		-28.1		-16.2	
GAS:												
"Cost"	72.9	-23.8	72.0	-23.7	78.9	8.2	77.7	7.9	83.7	6.1	83.2	7.1
"Expenditure"	81.6	-34.7	76.2	-33.5	99.1	21.4	89.6	17.6	85.8	-13.4	86.3	-3.7
% Change	-10.7		-5.5		-20.4		-13.3		-2.4		-3.6	
DRY:												
"Cost"	59.3	-35.6	59.2	-35.2	64.3	8.4	64.5	9.0	68.5	6.5	68.5	6.2
"Expenditure"	65.4	-39.5	66.9	-36.5	72.0	10.1	72.0	7.6	79.3	10.1	82.6	14.7
% Change	-9.3		-11.5		-10.7		-10.4		-13.6		-17.1	
TOTAL:												
"Cost"	67.6	-26.1	66.7	-25.9	73.4	8.6	71.4	7.0	78.4	6.8	76.4	7.0
"Expenditure"	81.9	-27.7	79.4	-26.3	88.0	7.4	81.9	3.1	90.4	2.7	87.7	7.1
% Change	-17.5		-16.0		-16.6		-12.8		-13.3		-12.9	

"Expenditure" based on JAS estimated drilling expenditures which are a function of depth, type, general location of wells drilled in that year. "Cost" numbers are redistributed well expenditures based on 1984 drilling activity.

Source: American Petroleum Institute, Joint Association Survey on Drilling Costs, 1984-1989.

CONFIDENTIAL

JOINT ASSOCIATION SURVEY ON DRILLING COSTS

U.S. WELLS DRILLED, FOOTAGE AND COSTS

CONFIDENTIAL

PAGE

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER
ABC OIL COMPANY	#1 J.M. OBERMILLER	CA	ON	04-029-23459

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE	Y. COORD. OR LONGITUDE
EXP-OIL	1	0	3456	08/89	031	15-N	053-E		° ▲ •	° ▲ •

COUNTY NAME	LOCATION	TOTAL COST
KERN	958 FNL 388 FWL	

COMMENTS:

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER
ABC OIL COMPANY	#8 P.J. GIBSON	OK	ON	35-053-10432

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE	Y. COORD. OR LONGITUDE
DEV-GAS	0	1	2335	04/89	017	19-N	044-E		° ▲ •	° ▲ •

COUNTY NAME	LOCATION	TOTAL COST
GRANT	2130 FSL 1560 FWL	

COMMENTS:

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER
ABC OIL COMPANY	B-3 OCS-G-3232	LA	OF	17-710-22106

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE	Y. COORD. OR LONGITUDE
DEV-DRY	0	0	8724	11/89					° ▲ •	° ▲ •

COUNTY NAME	LOCATION	TOTAL COST
EUGENE ISLAND SOUTH	BLOCK 361	

COMMENTS:

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE	Y. COORD. OR LONGITUDE
									° ▲ •	° ▲ •

COUNTY NAME	LOCATION	TOTAL COST

COMMENTS:

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE	Y. COORD. OR LONGITUDE
									° ▲ •	° ▲ •

COUNTY NAME	LOCATION	TOTAL COST

COMMENTS:

INDIVIDUAL SUBMITTING REPORT:_____ _____ TELEPHONE NUMBER: AC_____

INSTRUCTIONS AND DEFINITIONS FOR DRILLING COSTS

1. **WELLS TO BE REPORTED.** Report each domestic well completed by you as OPERATOR (whether actually drilled by you or drilled for you by a contractor), in the survey year. Report each well completed by you as operator regardless of the size of your working interest in the well. Do not report wells drilled by others in which you may have had only a part of a working interest regardless of the size of such interest. Do not report wells started in the survey year or in prior years, but not completed as of December 31 of the survey year. Do not report wells reentered for completion at shallower depths, old wells drilled deeper, old wells worked over, stratigraphic tests, core test, or service wells (including input wells).

2. **SHORE.** Enter "OFF" if well is located offshore; enter "ON" if it is onshore. An offshore well is one which is bottomed at, or produces from, a point which lies seaward of the coastline. If a state agency uses a different basis for classifying onshore and offshore wells, the state classification should be used. In general, the term "coastline" means the line of ordinary low water along that portion of the coast which is in direct contact with the open sea or the line marking the seaward limit of inland waters. For the purposes of the JAS Cook Inlet (Alaska) is classified as "offshore".

3. **OP CODE.** Make no entry. The API will supply the operator code.

4. **WELL IDENTIFICATION NUMBER.** Enter the STATE DESIGNATED API NUMBER if it is available. Where states do not assign API well numbers, or if you do not know the number, leave this item blank.

5. **TYPE.** Insert the classification for each well reported as either an exploratory (EXP) or a development (DEV) well. Exploratory wells include new-field wildcats, new-pool wildcats, deeper-pool tests, shallower-pool tests, and outposts (extensions). Development wells include all wells drilled to produce oil and gas from pools discovered by previous drilling.

   Subclassify all wells as either oil, gas or dry holes, e.g. "EXP-OIL", "DEV-GAS", "EXP-DRY". An oil well is a well completed for the production of crude oil from at least one oil zone or reservoir. A gas well is one which can produce hydrocarbons existing initially in a gaseous phase in the reservoir. So-called gas condensate wells should be reported as gas wells. A dry hole is an exploratory or development well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well. The state regulatory classification should be used, if available; if not available, use a classification by company engineers.

   Count MULTIPLE COMPLETIONS as one well. (See Item 6 for definition.)

6. **OIL ZONES, GAS ZONES.** Enter the total number of separately producing oil zones and gas zones (reservoirs).

   As noted under Item 5, a multiple completion should be reported as one well. A multiple completion well is a well equipped to produce oil and/or gas separately from more than one reservoir. SUCH WELLS CONTAIN MULTIPLE STRINGS OF TUBING OR OTHER EQUIPMENT WHICH PERMIT PRODUCTION FROM THE VARIOUS COMPLETIONS TO BE MEASURED AND ACCOUNTED FOR SEPARATELY.

   Report a multiple completion well as an oil well if oil is produced from at least one of several zones, even though gas and gas condensate may be produced from one or more zones in the same well. Report a multiple completion well as a gas well if oil is not produced from any of the several zones.

   For a dry hole enter the word "DRY".

7. **DEPTH.** Report for each well the total feet of penetration measured down the well bore. Include all plugged back footage, but exclude bypassed footage resulting from remedial sidetrack drilling operations. For OFFSHORE WELLS drilled from a platform or a barge over water and the reference point is above water, the depth of the water is included in the total length of the well bore.

8. **COMPLETION DATE.** Enter the month and year of completion.

9. **SECTION, TWP, RANGE.** Enter location data if appropriate for area.

10. **COUNTY NAME AND LOCATION.** For each onshore well reported provide the county name, and for state and federal offshore waters provide pseudo-county names. Under location enter the designated block numbers for state and federal offshore wells and any other available information that would be helpful in identifying well locations.

11. **TOTAL COST.** Report the TOTAL cost (tangible and intangible) of each well completed by you as operator in the survey year (whether actually drilled by you or drilled for you by contractors). The TOTAL of such costs should be reported even though you as operator had only a part of a working interest in the well.

    Do not report costs of wells drilled by others in which you had a working interest regardless of the size of such interest. The costs to be reported are those associated with wells which are completed during the survey year and the dollar amount to be reported is the accumulated cost of such wells from the time locations were made until the wells were completed as productive wells or abandoned after drilling was terminated because they were non-productive.

    PLEASE ROUND OFF TOTAL COSTS TO THE NEAREST DOLLAR.

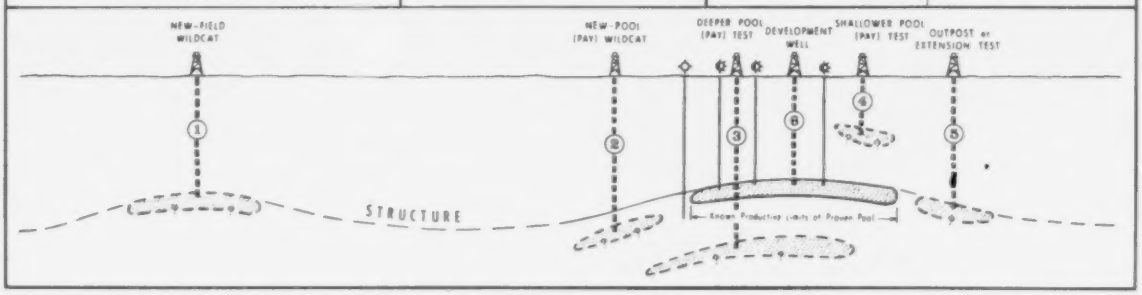
    In general, the elements contributing to reported cost are the expenditures for drilling dry holes and productive wells and equipping new productive wells through the "Christmas tree" installation. More specifically, these cost elements are the costs of labor, materials, supplies, water, fuels, power, and direct overhead (i.e., field, district, and regional), for such operations as site preparation, road building, erecting and dismantling derricks and drilling rigs, drilling hole, running and cementing casing, hauling materials, etc. Include the total cost of water, if purchased, or cost of water well, if drilled and chargeable to oil or gas well drilling operations. Well costs also include machinery and tool charges and rentals, and depreciation charges, where appropriate, for rigs and other equipment and facilities which will be used in drilling more than one well. Deduct the condition value of materials salvaged after use where appropriate.

    Do not report the cost of lease equipment such as artificial lift equipment and downhole lift equipment, flow lines, flow tanks, separators, etc., that are required for production. Do not reduce the costs by test well, bottom hole, or dry hole contributions.

    For OFFSHORE WELLS, include costs on fixed platforms and islands. Where facilities serve more than one well, the costs should be allocated to each well on the basis of the operator's best current estimate of the ultimate number of wells that will use the facility. Also, include cost expirations (depreciation or amortization) for company-owned mobile platforms, barges, and tenders.

AAPG and API Classification of Wells

OBJECTIVE OF DRILLING				INITIAL CLASSIFICATION ◊ WHEN DRILLING IS STARTED	FINAL CLASSIFICATION AFTER COMPLETION OR ABANDONMENT			
					SUCCESSFUL ● ✿ ❁		UNSUCCESSFUL ✧	
Drilling for a **new field** on a structure or in an environment never before productive				1. NEW-FIELD WILDCAT	NEW-FIELD DISCOVERY WILDCAT		DRY NEW-FIELD WILDCAT	
Drilling for a **new pool** on a structure or in a geological environment already productive	NEW POOL TESTS	Drilling **outside limits** of a proved area of pool		2. NEW-POOL (PAY) WILDCAT	NEW-POOL DISCOVERY WELLS *(Sometimes extension wells)*	NEW-POOL DISCOVERY WILDCAT *(Sometimes an extension well)*	DRY NEW-POOL TESTS	DRY NEW-POOL WILDCAT
		Drilling **inside limits** of proved area of pool	For a **new pool below** deepest proven pool	3. DEEPER POOL (PAY) TEST		DEEPER POOL DISCOVERY WELL		DRY DEEPER POOL TEST
			For a **new pool above** deepest proven pool	4. SHALLOWER POOL (PAY) TEST		SHALLOWER POOL DISCOVERY WELL		DRY SHALLOWER POOL TEST
Drilling for **long extension** of a partly developed pool				5. OUTPOST or EXTENSION TEST	EXTENSION WELL *(Sometimes a new-pool discovery well)*		DRY OUTPOST OR DRY EXTENSION TEST	
Drilling to exploit or **develop** a hydrocarbon accumulation discovered by previous drilling				6. DEVELOPMENT WELL	DEVELOPMENT WELL		DRY DEVELOPMENT WELL	



LAHEE CLASSIFICATION OF WELLS, AS APPLIED BY CSD

Tests drilled with the intent of being completed as hydrocarbon producers if found

NEW FIELD WILDCAT. A new field wildcat is located far from producing pools, and on a structure which has not produced before. In regions where local structure has little or no control on accumulation, these holes are generally at least 2 miles from the nearest productive area. Distance, however, is not the determining factor. The classification is based on the degree of risk assumed by the operator, and his intention to test a structure or stratigraphic condition not previously proved productive.

NEW-POOL (PAY) WILDCAT. A new-pool wildcat is located to explore for new pools on a structure already producing, but off to one side of the presently producing area. In some regions where local structure is almost negligible as a control, exploration holes of this group may be called "near wildcats." Such will usually be less than 2 miles from the nearest productive area. Sometimes a new-pool wildcat may extend a pool already partly developed, if so its final classification is an Extension.

DEEPER-POOL (PAY) TEST. A deeper-pool test is an exploratory hole located within the productive area of a pool, or pools, already partly or wholly developed. It is drilled below the deepest such pool penetrated by it to explore for deeper unknown prospects. Sometimes such a hole extends a deeper pool which has been partly developed in another part of the field.

SHALLOWER-POOL (PAY) TEST. A shallower-pool test is exploratory only if drilled in search of some new productive reservoir, unknown but possibly suspected from data secured from other wells. The test must be located within the productive area of a pool, or pools, previously developed. Sometimes such a test extends a shallower-pool partly developed elsewhere in the same field.

OUTPOST OR EXTENSION TEST. An outpost is located and drilled with the expectation of extending for a considerable distance the productive area of a partly developed pool. It is usually two or more locations distant from the nearest productive area. Sometimes an outpost discovers a new pool.

DEVELOPMENT WELL. A well drilled to exploit a hydrocarbon accumulation discovered by previous drilling.

Tests drilled without the intent of being completed for hydrocarbon production

STRATIGRAPHIC TEST. A drilling effort, geologically directed, to obtain information pertaining to a specific earth condition that might lead toward a possible accumulation of hydrocarbon. It must be drilled without the intention of being completed for hydrocarbon production. This classification includes tests identified as core tests by some operators.

SERVICE WELL. A well that is either drilled or completed for the purpose of supporting production of an existing field through observation, injection, water supply, etc.

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SUMMARY OF SAMPLE DATA - 1989

EXPLORATORY WELLS

DEPTH INTERVAL (FEET)			TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
			OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS			1	8	38	47				
FOOTAGE	0 -	1,249	760	7,964	30,784	39,508	760	996	810	841
COSTS $			30,928	3,581,466	597,063	4,209,457	30,928	447,683	15,712	89,563
WELLS			9	66	91	166				
FOOTAGE	1,250 -	2,499	17,144	130,963	172,586	320,693	1,905	1,984	1,897	1,932
COSTS $			569,656	11,660,284	4,465,949	16,695,889	63,295	176,671	49,076	100,578
WELLS			19	20	192	231				
FOOTAGE	2,500 -	3,749	63,148	60,409	604,442	727,999	3,324	3,020	3,148	3,152
COSTS $			2,011,633	3,902,483	14,348,617	20,262,733	105,875	195,124	74,732	87,717
WELLS			51	27	288	366				
FOOTAGE	3,750 -	4,999	227,220	113,727	1,247,701	1,588,648	4,455	4,212	4,332	4,341
COSTS $			8,308,163	10,023,191	25,781,987	44,113,341	162,905	371,229	89,521	120,528
WELLS			75	84	378	537				
FOOTAGE	5,000 -	7,499	463,728	519,157	2,306,925	3,289,810	6,183	6,180	6,103	6,126
COSTS $			21,560,837	34,730,489	83,536,951	139,828,277	287,478	413,458	220,997	260,388
WELLS			32	88	194	314				
FOOTAGE	7,500 -	9,999	279,705	760,120	1,683,161	2,722,986	8,741	8,638	8,676	8,672
COSTS $			19,232,450	83,374,179	134,465,635	237,072,264	601,014	947,434	693,122	755,007
WELLS			38	34	134	206				
FOOTAGE	10,000 -	12,499	418,365	382,559	1,482,483	2,283,407	11,010	11,252	11,063	11,085
COSTS $			50,690,705	52,131,023	186,102,790	288,924,518	1,333,966	1,533,265	1,388,827	1,402,546
WELLS			23	25	88	136				
FOOTAGE	12,500 -	14,999	299,058	346,137	1,200,593	1,845,788	13,003	13,845	13,643	13,572
COSTS $			35,133,033	77,884,919	179,904,480	292,922,432	1,527,523	3,115,397	2,044,369	2,153,842
WELLS			2	9	36	47				
FOOTAGE	15,000 -	17,499	32,412	141,075	590,247	763,734	16,206	15,675	16,396	16,250
COSTS $			14,234,746	38,419,402	167,944,155	220,598,303	7,117,373	4,268,823	4,665,116	4,693,581
WELLS			1	2	9	12				
FOOTAGE	17,500 -	19,999	18,682	36,912	164,793	220,387	18,682	18,456	18,310	18,366
COSTS $			1,451,722	13,766,756	34,934,759	50,153,237	1,451,722	6,883,378	3,881,640	4,179,437
WELLS			--	1	3	4				
FOOTAGE	20,000 & OVER		--	20,548	66,676	87,224	--	20,548	22,225	21,806
COSTS $			--	16,227,866	52,969,489	69,197,355	--	16,227,866	17,656,497	17,299,339
TOTAL WELLS			251	364	1,451	2,066				
TOTAL FOOTAGE			1,820,222	2,519,571	9,550,391	13,890,184	7,252	6,922	6,582	6,723
TOTAL COSTS $			153,223,873	345,702,058	885,051,875	1,383,977,806	610,454	949,731	609,960	669,883

SUMMARY OF SAMPLE DATA - 1989

DEVELOPMENT WELLS

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		492	63	73	628				
FOOTAGE	0 - 1,249	457,306	55,476	55,451	568,233	929	881	760	905
COSTS $		38,093,553	3,203,067	1,071,242	42,367,862	77,426	50,842	14,675	67,465
WELLS		889	538	118	1,545				
FOOTAGE	1,250 - 2,499	1,569,609	953,327	218,692	2,741,628	1,766	1,772	1,853	1,775
COSTS $		104,085,337	52,886,524	4,817,850	161,789,711	117,081	98,302	40,829	104,718
WELLS		759	837	220	1,816				
FOOTAGE	2,500 - 3,749	2,315,542	2,551,222	692,267	5,559,031	3,051	3,048	3,147	3,061
COSTS $		112,472,007	151,835,927	22,962,688	287,270,622	148,184	181,405	104,376	158,189
WELLS		739	352	216	1,307				
FOOTAGE	3,750 - 4,999	3,339,776	1,525,833	940,741	5,806,350	4,519	4,335	4,355	4,443
COSTS $		135,649,778	79,664,362	21,399,957	236,714,097	183,559	226,319	99,074	181,113
WELLS		717	817	324	1,858				
FOOTAGE	5,000 - 7,499	4,340,016	4,856,407	2,003,762	11,200,185	6,053	5,944	6,184	6,028
COSTS $		235,777,134	222,015,651	68,253,396	526,046,181	328,838	271,745	210,659	283,125
WELLS		451	502	210	1,163				
FOOTAGE	7,500 - 9,999	3,909,325	4,424,678	1,784,144	10,118,147	8,668	8,814	8,496	8,700
COSTS $		297,355,386	420,162,470	94,622,845	812,140,701	659,325	836,977	450,585	698,315
WELLS		187	262	123	572				
FOOTAGE	10,000 - 12,499	2,087,875	2,895,779	1,371,964	6,355,618	11,165	11,053	11,154	11,111
COSTS $		253,439,720	364,105,454	188,452,780	805,997,954	1,355,293	1,389,716	1,532,136	1,409,087
WELLS		90	137	69	296				
FOOTAGE	12,500 - 14,999	1,207,273	1,870,062	944,436	4,021,771	13,414	13,650	13,687	13,587
COSTS $		197,038,511	311,988,745	124,390,520	633,417,776	2,189,317	2,277,290	1,802,761	2,139,925
WELLS		13	50	26	89				
FOOTAGE	15,000 - 17,499	205,661	787,204	417,204	1,410,069	15,820	15,744	16,046	15,843
COSTS $		69,544,881	179,467,876	68,136,169	317,148,926	5,349,606	3,589,358	2,620,622	3,563,471
WELLS		2	6	6	14				
FOOTAGE	17,500 - 19,999	37,305	110,819	110,167	258,291	18,653	18,470	18,361	18,449
COSTS $		16,480,947	52,031,706	19,035,447	87,548,100	8,240,474	8,671,951	3,172,575	6,253,436
WELLS		--	2	2	4				
FOOTAGE	20,000 & OVER	--	51,985	40,000	91,985	--	25,993	20,000	22,996
COSTS $		--	32,438,122	14,593,723	47,031,845	--	16,219,061	7,296,862	11,757,961
TOTAL WELLS		4,339	3,566	1,387	9,292				
TOTAL FOOTAGE		19,469,688	20,082,792	8,578,828	48,131,308	4,487	5,632	6,185	5,180
TOTAL COSTS $		1,459,937,254	1,869,799,904	627,736,617	3,957,473,775	336,469	524,341	452,586	425,901

SUMMARY OF SAMPLE DATA - 1989

SINGLE-COMPLETION WELLS

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS		AVERAGE DEPTH AND COST PER WELL	
		OIL WELLS	GAS WELLS	OIL	GAS
WELLS		493	71		
FOOTAGE	0 - 1,249	458,066	63,440	929	894
COSTS $		38,124,481	6,784,533	77,332	95,557
WELLS		895	597		
FOOTAGE	1,250 - 2,499	1,579,884	1,069,064	1,765	1,791
COSTS $		104,416,396	63,581,483	116,666	106,502
WELLS		775	839		
FOOTAGE	2,500 - 3,749	2,369,589	2,557,151	3,058	3,048
COSTS $		114,175,936	152,155,267	147,324	181,353
WELLS		785	351		
FOOTAGE	3,750 - 4,999	3,544,986	1,517,408	4,516	4,323
COSTS $		142,398,195	78,951,605	181,399	224,933
WELLS		781	853		
FOOTAGE	5,000 - 7,499	4,734,951	5,078,974	6,063	5,954
COSTS $		250,512,642	223,130,244	320,759	261,583
WELLS		464	553		
FOOTAGE	7,500 - 9,999	4,019,411	4,859,519	8,663	8,788
COSTS $		301,325,926	459,298,392	649,409	830,558
WELLS		213	273		
FOOTAGE	10,000 - 12,499	2,369,178	3,027,834	11,123	11,091
COSTS $		289,737,886	371,099,699	1,360,272	1,359,340
WELLS		109	156		
FOOTAGE	12,500 - 14,999	1,453,399	2,134,052	13,334	13,680
COSTS $		221,692,354	376,181,341	2,033,875	2,411,419
WELLS		14	58		
FOOTAGE	15,000 - 17,499	221,918	913,029	15,851	15,742
COSTS $		72,906,256	215,976,334	5,207,590	3,723,730
WELLS		3	8		
FOOTAGE	17,500 - 19,999	55,987	147,731	18,662	18,466
COSTS $		17,932,669	65,798,462	5,977,557	8,224,808
WELLS		--	3		
FOOTAGE	20,000 & OVER	--	72,533	--	24,178
COSTS $		--	48,665,988	--	16,221,996

SUMMARY OF SAMPLE DATA - 1989

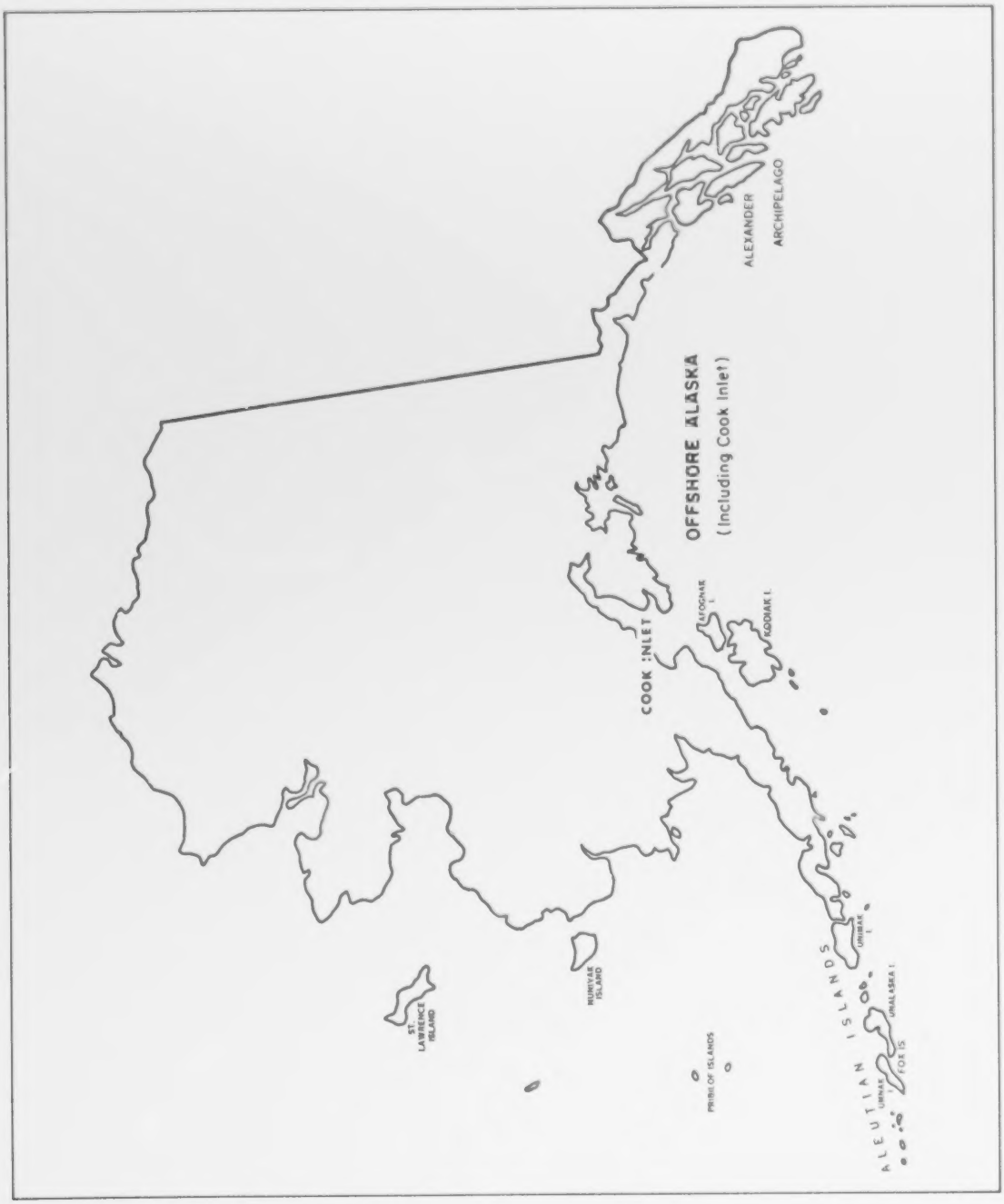
MULTIPLE-COMPLETION WELLS

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS		AVERAGE DEPTH AND COST PER WELL	
		OIL WELLS	GAS WELLS	OIL	GAS
WELLS		--	--		
FOOTAGE	0 - 1,249	--	--	--	--
COSTS $		--	--	--	--
WELLS		3	7		
FOOTAGE	1,250 - 2,499	6,869	15,226	2,290	2,175
COSTS $		238,597	965,325	79,532	137,904
WELLS		3	18		
FOOTAGE	2,500 - 3,749	9,101	54,480	3,034	3,027
COSTS $		307,704	3,583,143	102,568	199,064
WELLS		5	28		
FOOTAGE	3,750 - 4,999	22,010	122,152	4,402	4,363
COSTS $		1,559,746	10,735,948	311,949	383,427
WELLS		11	48		
FOOTAGE	5,000 - 7,499	68,793	296,590	6,254	6,179
COSTS $		6,825,329	33,615,896	620,484	700,331
WELLS		19	37		
FOOTAGE	7,500 - 9,999	169,619	325,279	8,927	8,791
COSTS $		15,261,910	44,238,257	803,258	1,195,629
WELLS		12	23		
FOOTAGE	10,000 - 12,499	137,062	250,504	11,422	10,891
COSTS $		14,392,539	45,136,778	1,199,378	1,962,469
WELLS		4	6		
FOOTAGE	12,500 - 14,999	52,932	82,147	13,233	13,691
COSTS $		10,479,190	13,692,323	2,619,798	2,282,054
WELLS		1	1		
FOOTAGE	15,000 - 17,499	16,155	15,250	16,155	15,250
COSTS $		10,873,371	1,910,944	10,873,371	1,910,944
WELLS		--	--		
FOOTAGE	17,500 - 19,999	--	--	--	--
COSTS $		--	--	--	--
WELLS		--	--		
FOOTAGE	20,000 & OVER	--	--	--	--
COSTS $		--	--	--	--

J.A.S SAMPLE DISTRIBUTION 1985 - 1989

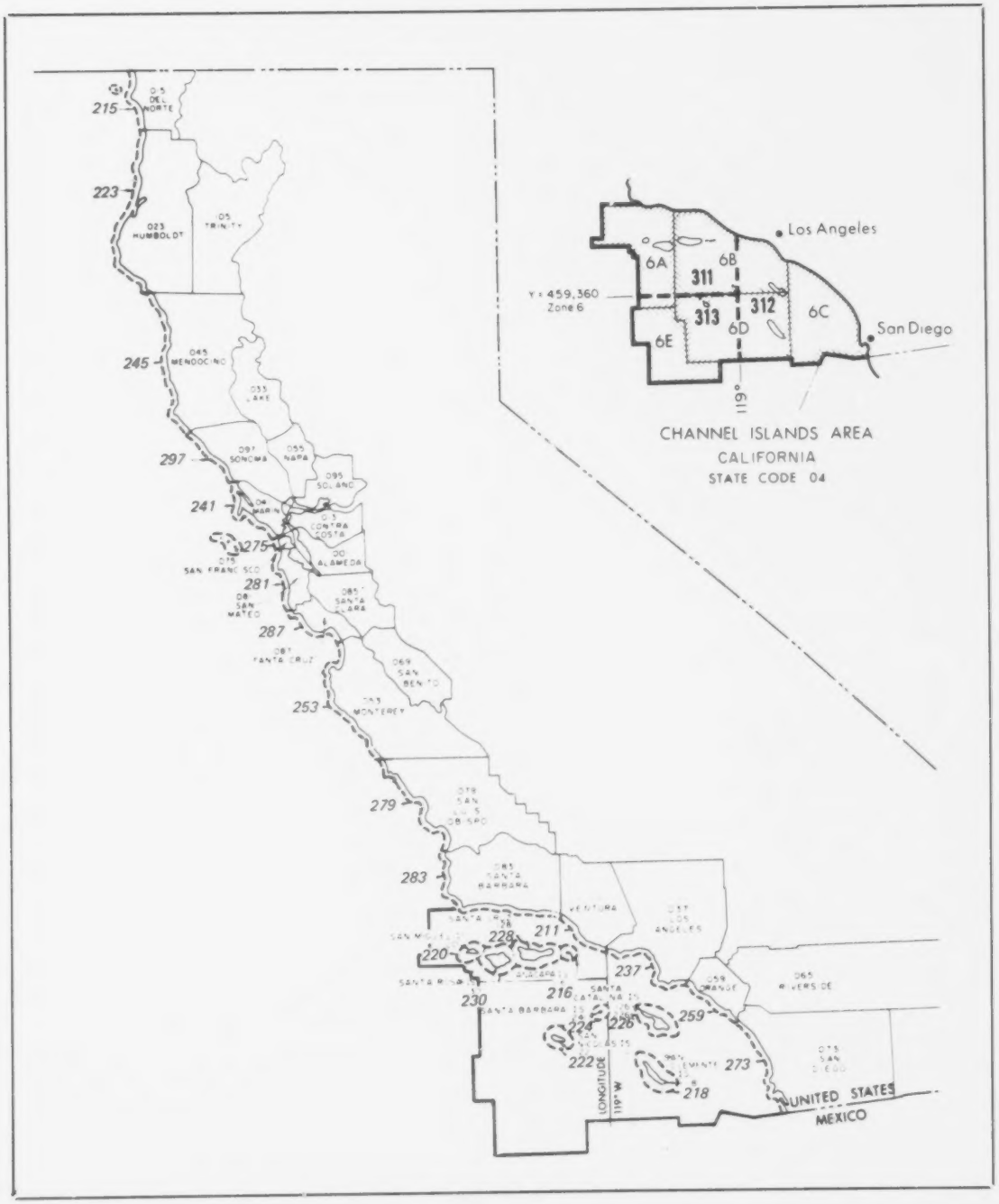
No. of Wells Drilled	1985		1986		1987		1988		1989	
	No. of Co's	No. of Wells	No. of Co's	No. of Wells	No. of Co's	No. of Wells	No. of Co's	No. of Wells	No. of Co's	No. of Wells
1-4	719	1,491	775	1,501	958	1,841	955	1,819	910	1,696
5-9	281	1,818	214	1,382	250	1,601	223	1,434	203	1,301
10-24	256	3,916	164	2,460	175	2,617	140	2,101	92	1,365
25-49	66	2,209	41	1,356	40	1,296	36	1,200	28	988
50-99	31	2,032	19	1,373	17	1,201	21	1,362	20	1,419
100 & over	33	13,572	23	7,221	18	6,473	21	6,078	18	4,589
Total	1,386	25,038	1,236	15,293	1,458	15,029	1,396	13,994	1,271	11,358

MAP I
SUBDIVISIONS OF ALASKA

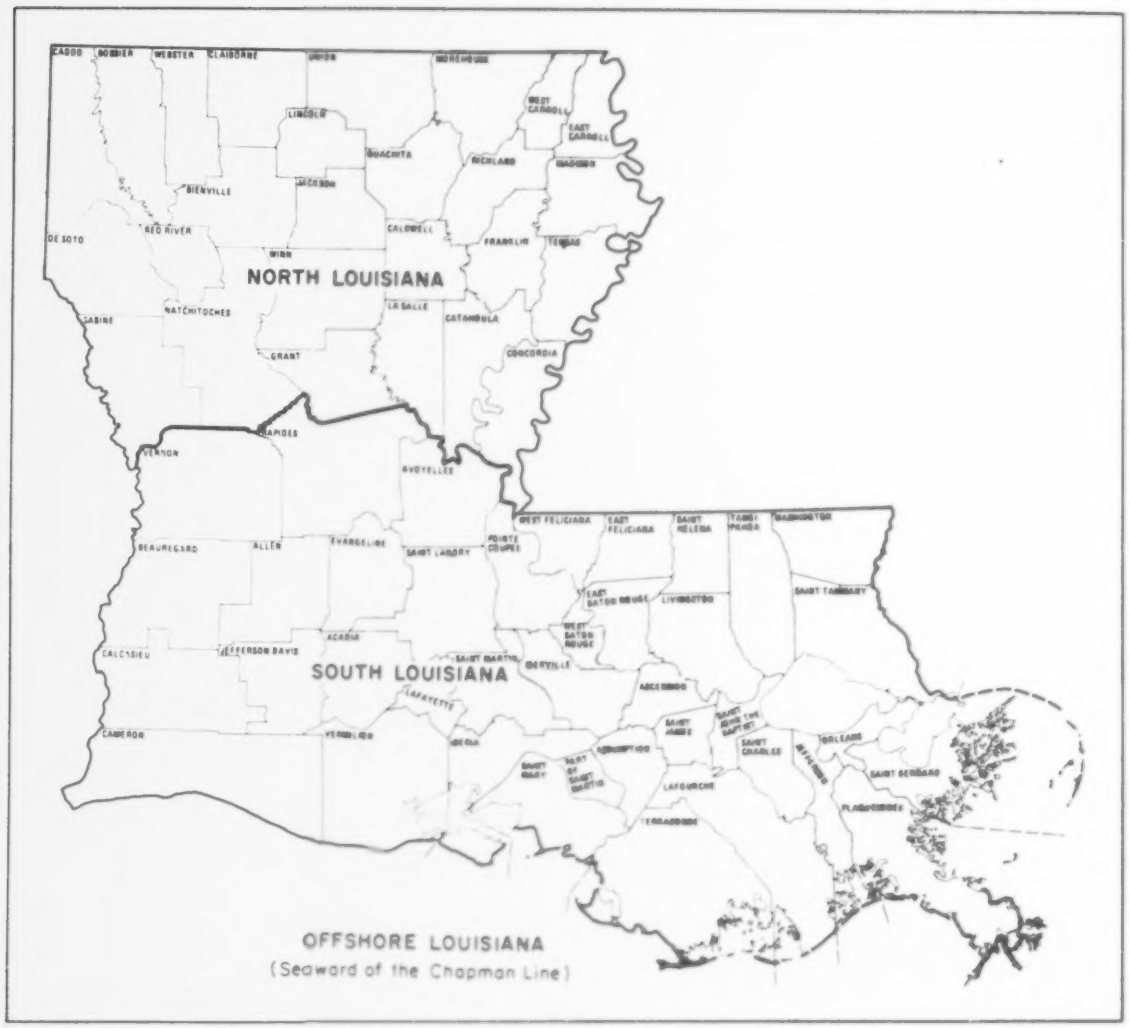


MAP II
SUBDIVISIONS OF CALIFORNIA

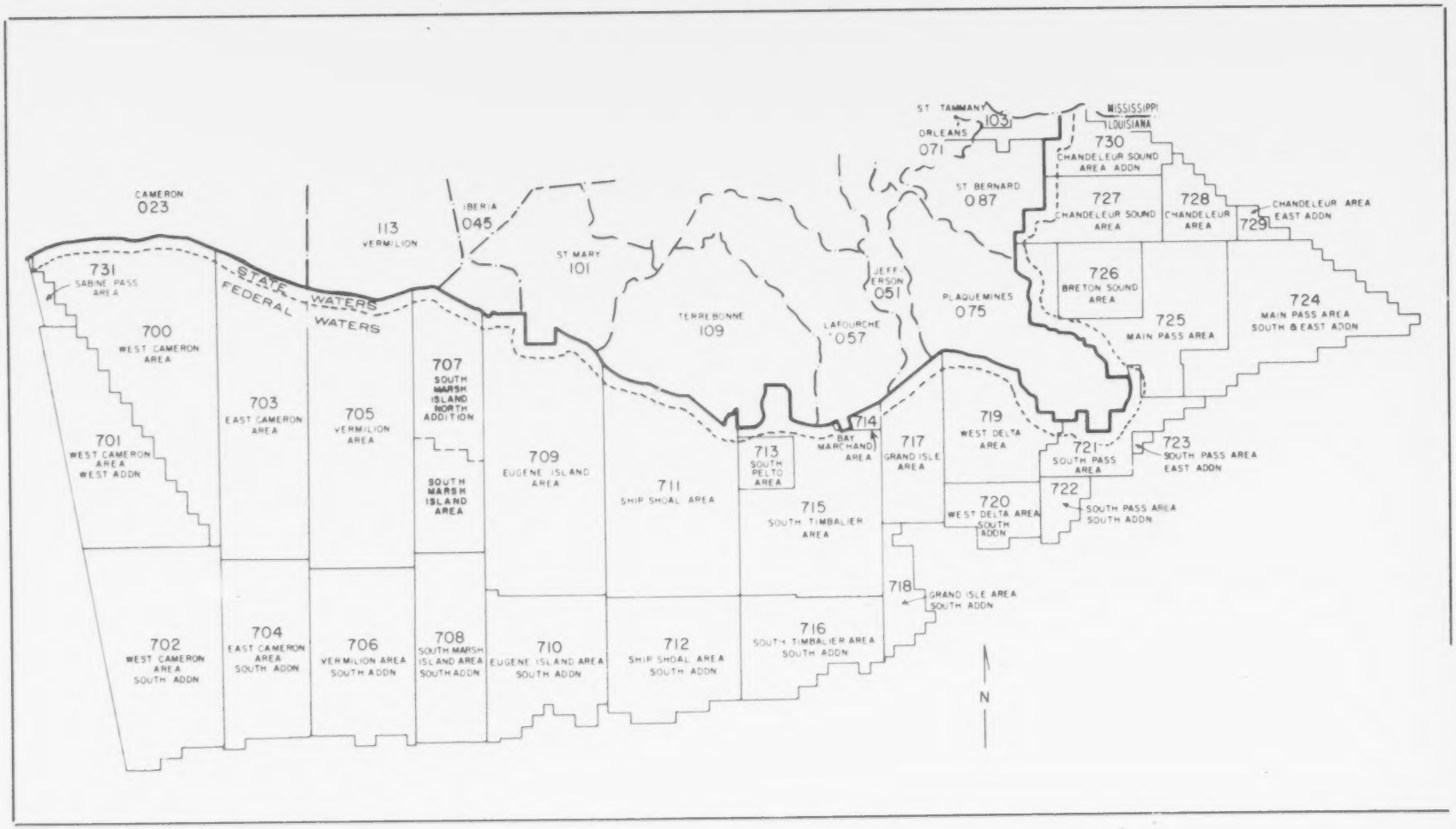
MAP III
CALIFORNIA OFFSHORE



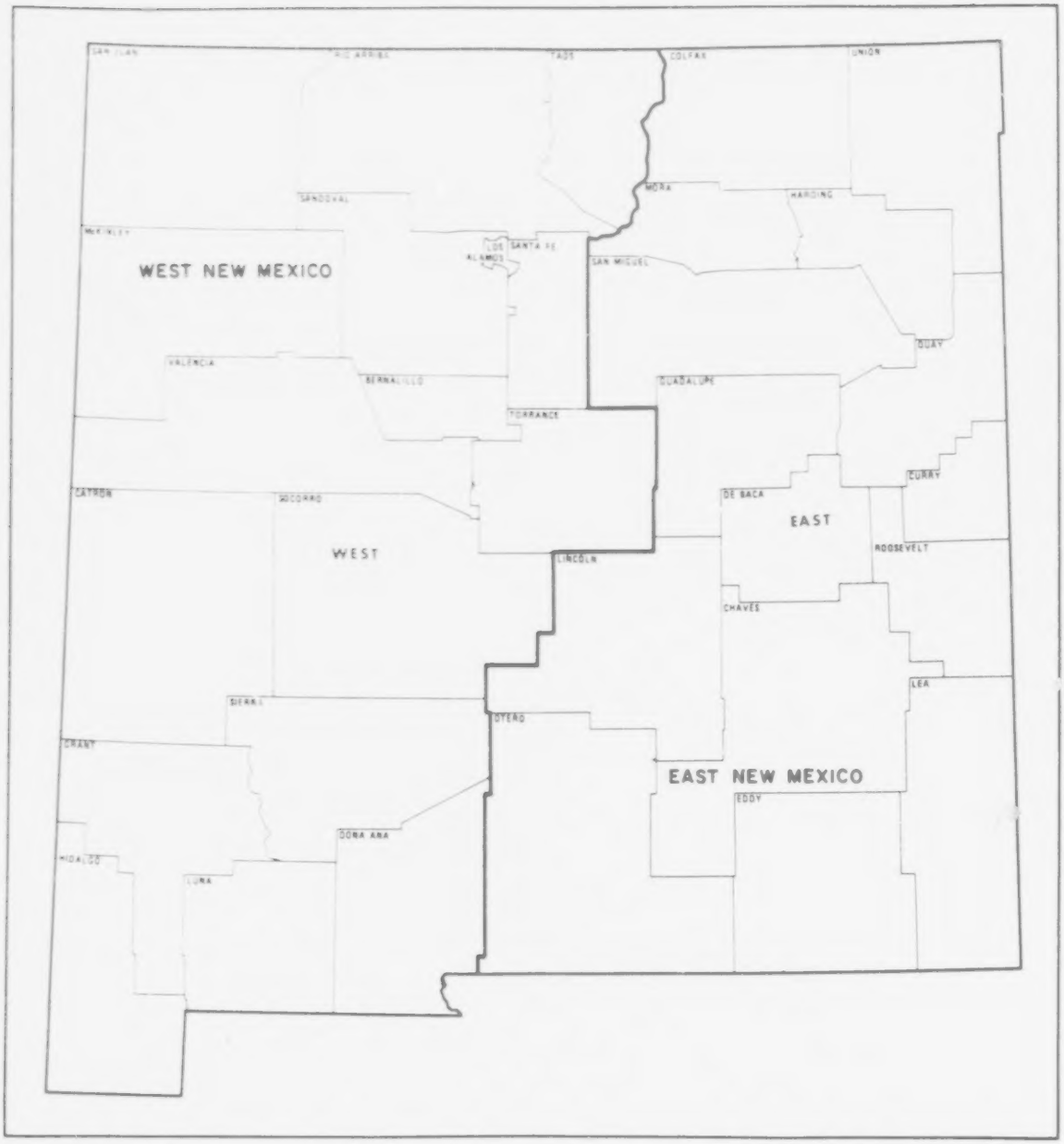
MAP IV
SUBDIVISIONS OF LOUISIANA



MAP V
LOUISIANA OFFSHORE

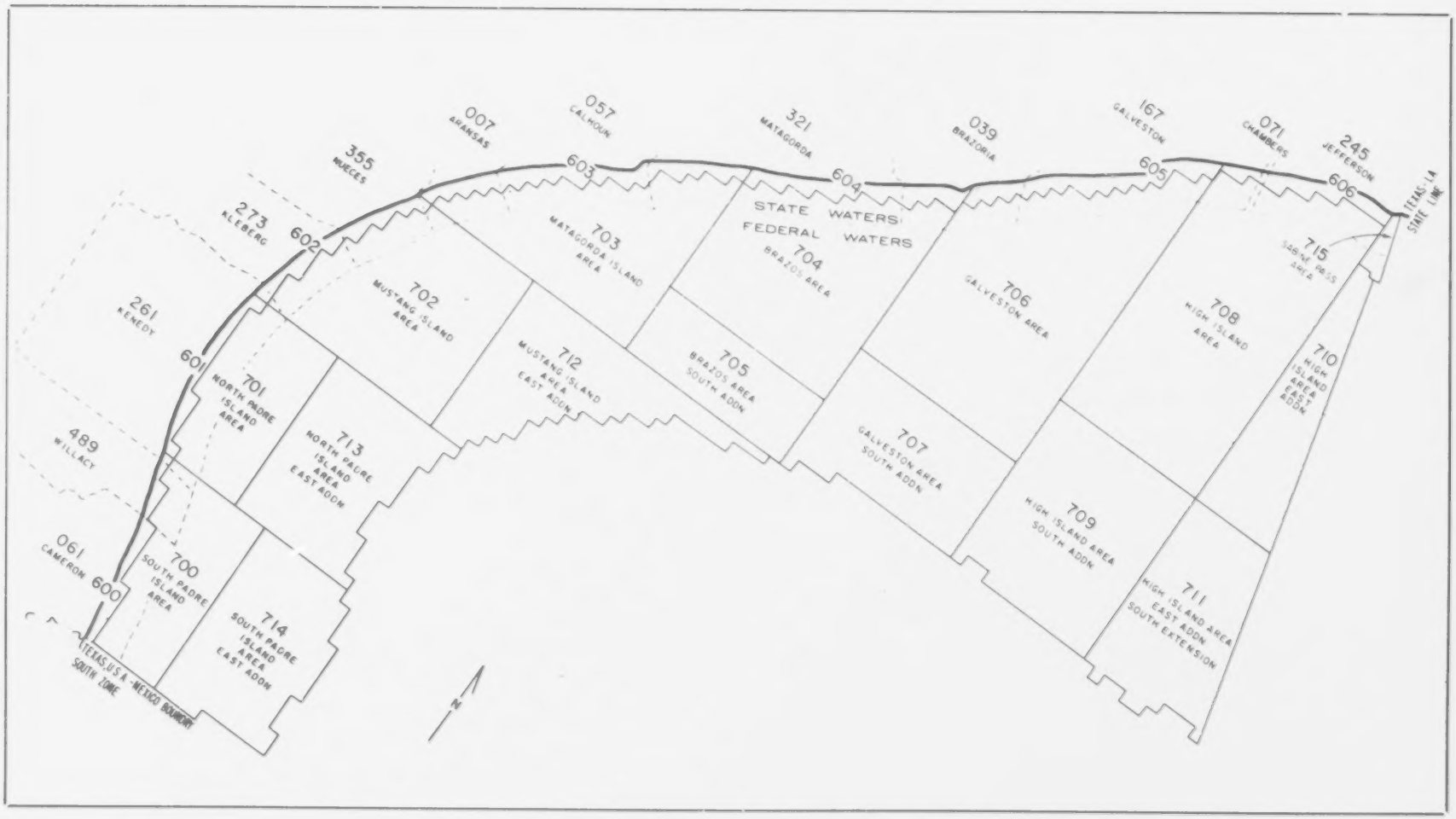

CAMERON 023
113 VERMILION
IBERIA 045
ST MARY 101
TERREBONNE 109
LAFOURCHE 057
JEFFERSON 051
PLAQUEMINES 075
ST BERNARD 087
ST TAMMANY 103
ORLEANS 071
MISSISSIPPI
LOUISIANA
STATE WATERS
FEDERAL WATERS
731 SABINE PASS AREA
700 WEST CAMERON AREA
701 WEST CAMERON AREA WEST ADDN
702 WEST CAMERON AREA SOUTH ADDN
703 EAST CAMERON AREA
704 EAST CAMERON AREA SOUTH ADDN
705 VERMILION AREA
706 VERMILION AREA SOUTH ADDN
707 SOUTH MARSH ISLAND NORTH ADDITION
SOUTH MARSH ISLAND AREA
708 SOUTH MARSH ISLAND AREA SOUTH ADDN
709 EUGENE ISLAND AREA
710 EUGENE ISLAND AREA SOUTH ADDN
711 SHIP SHOAL AREA
712 SHIP SHOAL AREA SOUTH ADDN
713 SOUTH PELTO AREA
714 BAY MARCHAND AREA
715 SOUTH TIMBALIER AREA
716 SOUTH TIMBALIER AREA SOUTH ADDN
717 GRAND ISLE AREA
718 GRAND ISLE AREA SOUTH ADDN
719 WEST DELTA AREA
720 WEST DELTA AREA SOUTH ADDN
721 SOUTH PASS AREA
722 SOUTH PASS AREA SOUTH ADDN
723 SOUTH PASS AREA EAST ADDN
724 MAIN PASS AREA SOUTH & EAST ADDN
725 MAIN PASS AREA
726 BRETON SOUND AREA
727 CHANDELEUR SOUND AREA
728 CHANDELEUR AREA
729 CHANDELEUR AREA EAST ADDN
730 CHANDELEUR SOUND AREA ADDN
N

MAP VI
SUBDIVISIONS OF NEW MEXICO

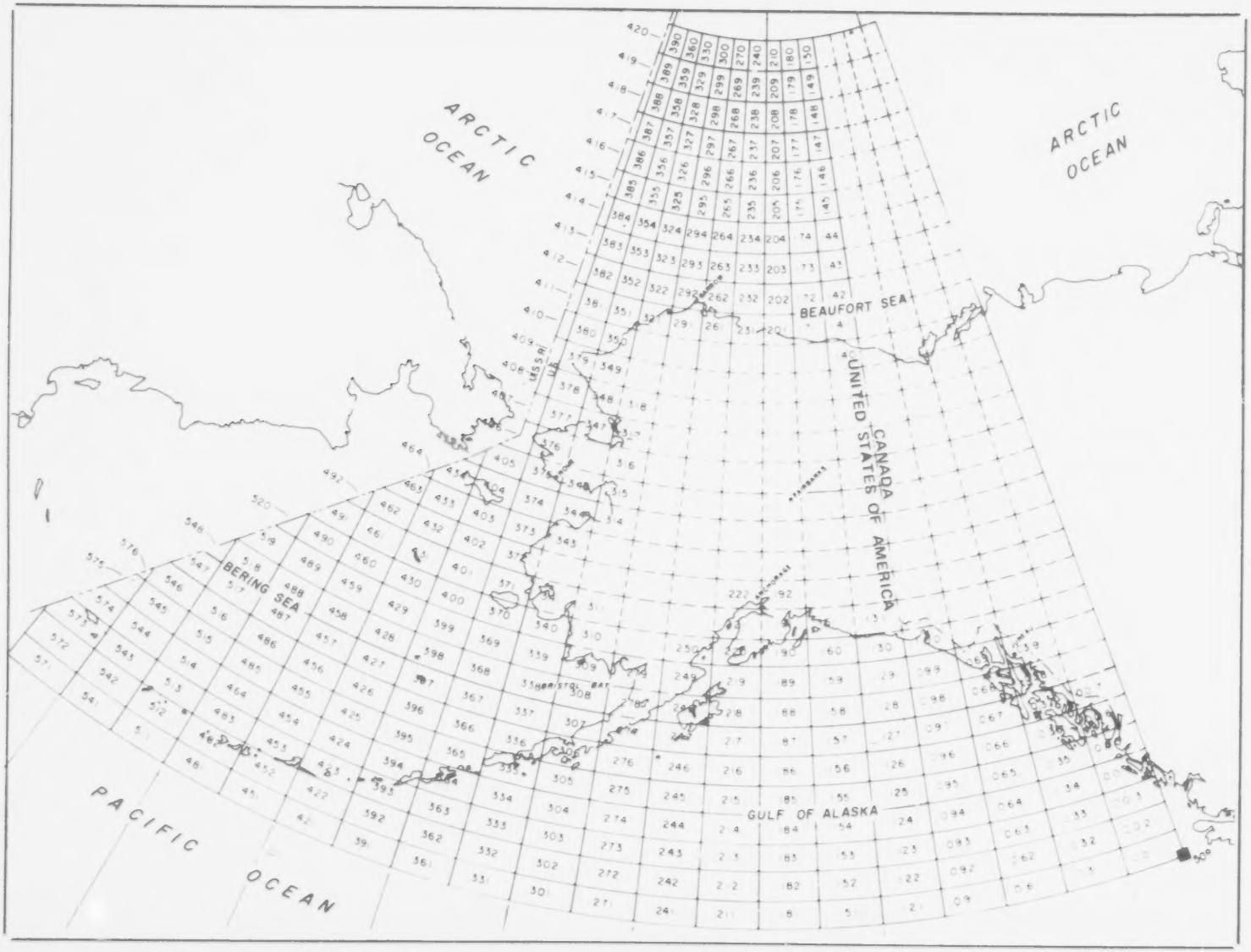


MAP VII
SUBDIVISIONS OF TEXAS

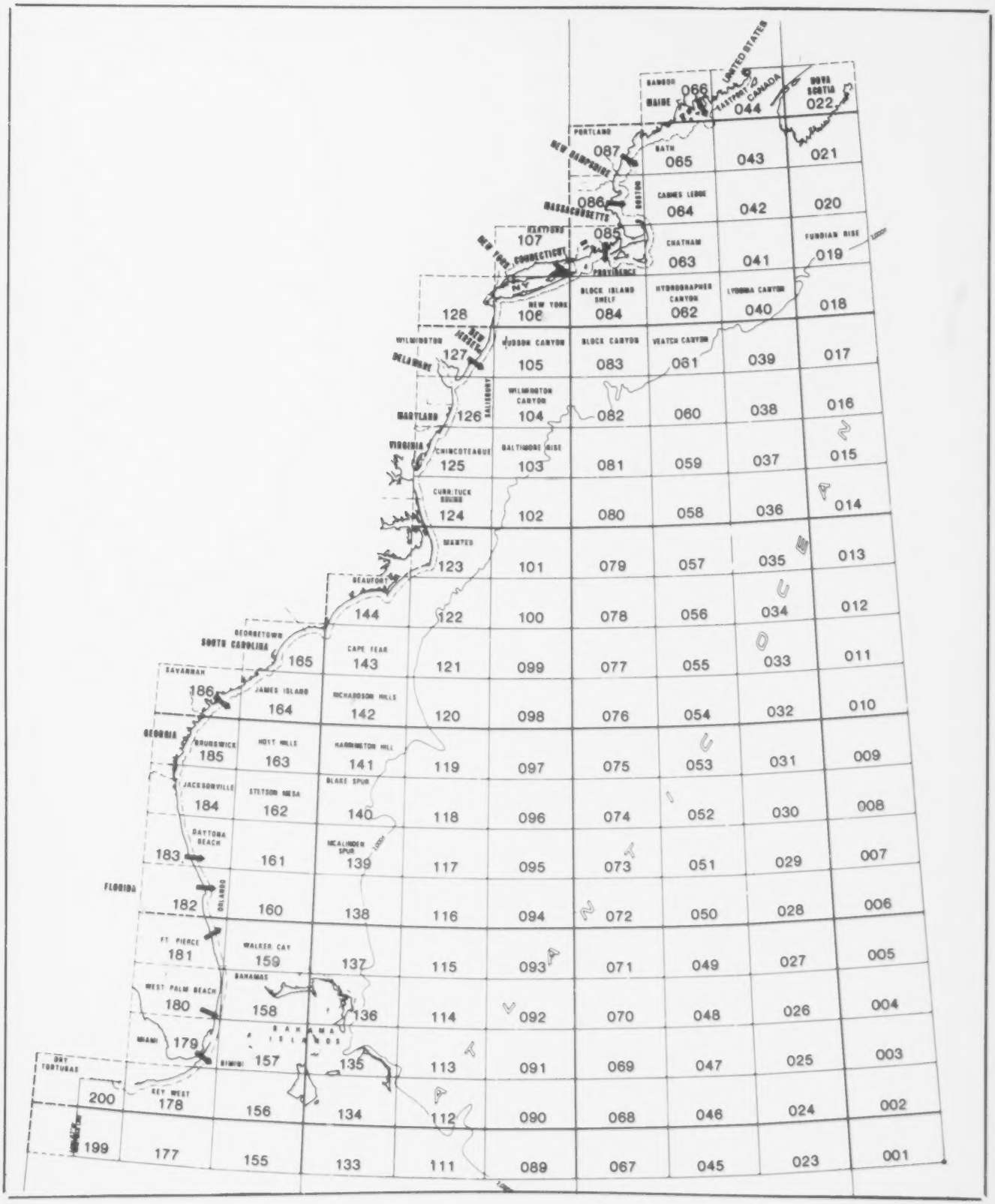
MAP VIII
TEXAS OFFSHORE



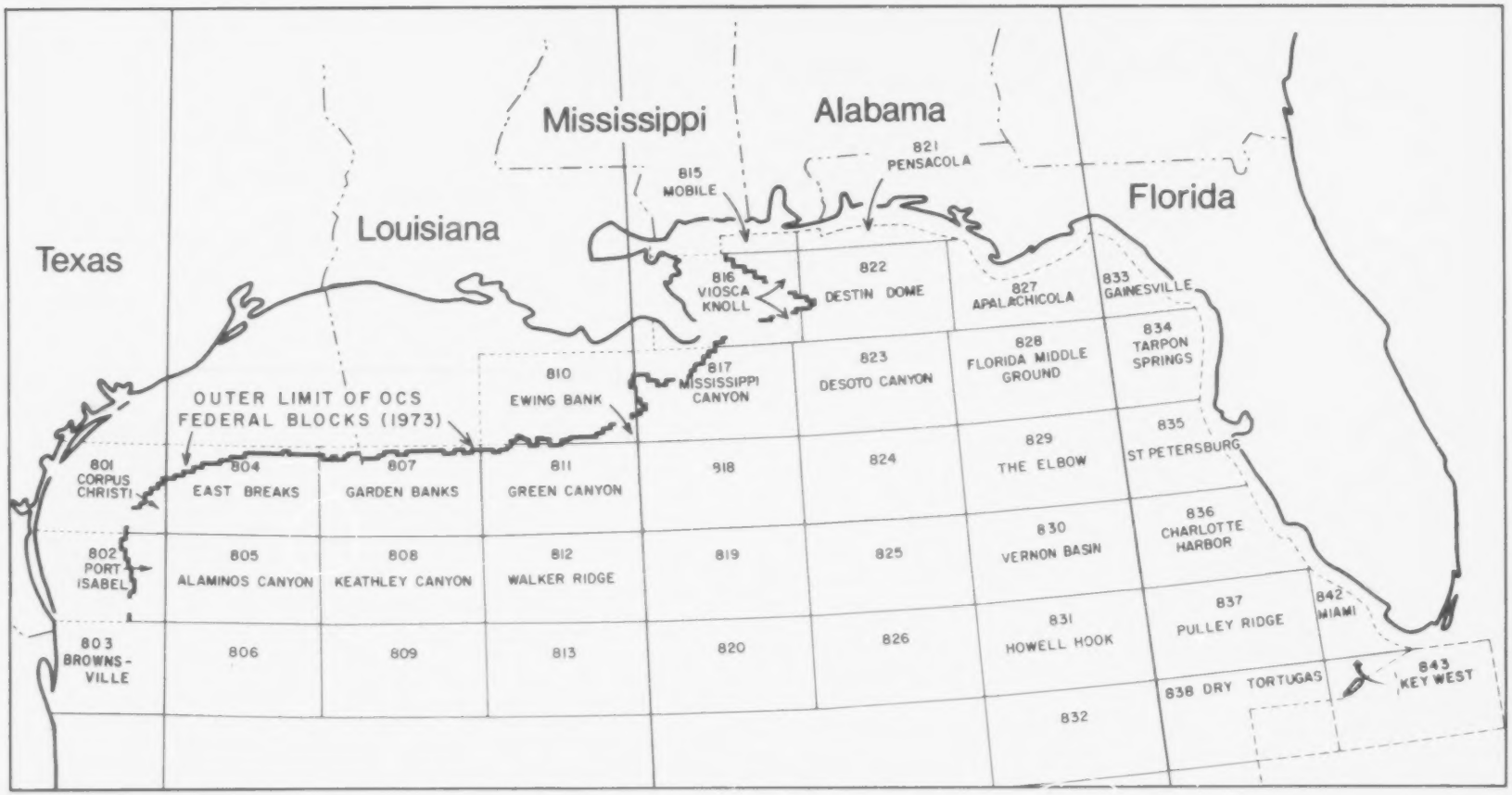
MAP IX
SUBDIVISIONS OF
OFFSHORE FEDERAL WATERS
ALASKA



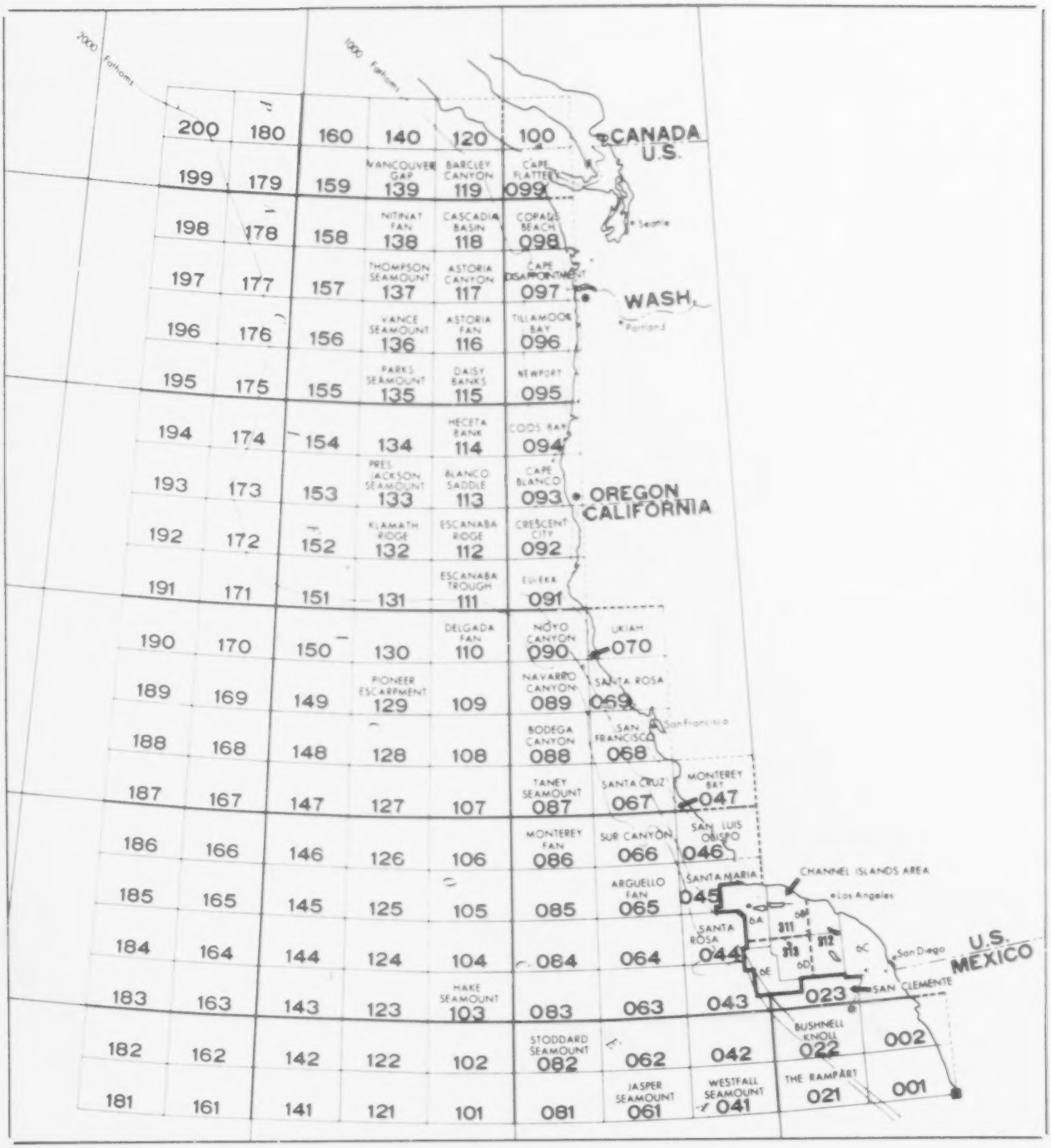
MAP X
SUBDIVISIONS OF OFFSHORE FEDERAL WATERS
ATLANTIC COAST



MAP XI
SUBDIVISIONS OF
OFFSHORE FEDERAL WATERS
GULF OF MEXICO—Northern



MAP XII
SUBDIVISIONS OF
OFFSHORE FEDERAL WATERS
PACIFIC COAST



JOINT ASSOCIATION SURVEY METHODOLOGY

API publishes annual estimates of drilling costs in the U.S. based on a sample of approximately 43 % of all wells drilled and 55 percent of total expenditures for well drilling. The results, published in the Joint Association Survey (JAS), show estimated average drilling costs and total drilling expenditures by state (or other political region), by depth, and by well type. API has cost data only for those wells within the JAS sample. Drilling costs for wells not reported in the sample must be estimated. The API receives information on depth, type, and location of non-reported wells, and uses this information along with reported costs for similar wells to estimate costs for non-sample wells.

REGRESSION ESTIMATES OF WELL COSTS.

The current JAS methodology is a modified version of the methodology used since 1978. Costs for non-reported wells are modeled as a function of the depth of the well, the type of well, and the general location of the well. A stepwise general linear regression is fit to the sample data, with the statistical routine chosing the variables that best fit the data for the particular type of well and area. The routine chooses up to three forms of the depth term; inverted depth, depth, and depth squared, and among a set of dummy classification variables for type of well, exploratory or development,single or multiple completion. The overall sample for any area is first stratified by type and separate regressions are run for each type of well. A regression is also run for the total sample for the area to insure that an alternative is available should the separate models prove inadequate.

The general functional form of the regression equation is:

$$(1)\quad \log(\text{cost per foot}) = a + b\,1/\text{depth} + c\,\text{depth} + d\,\text{depth}^2 + p_1 I_1 + \ldots + p_9 I_9$$

where depth is in thousands of feet, and the I1 through I9 are indicator variables for well type.1

Except for the 1/depth term, this equation is a polynomial, a functional form often used in regression analysis when an *a priori* functional form has not been specified. (Higher order polynomials were investigated, but did not noticeably improve the fit). The 1/depth term helps reflect the decreasing cost per foot observed at shallower depths in some areas. (As depth increases, 1/depth decreases in size, so the term's contribution to estimated cost per foot can be large for shallow depths, but becomes small at greater depths).

The inclusion of indicator variables allows the level of costs to vary by well type. Since the above equation is in log form, different well types are estimated to be proportional to one another, with the proportion being determined by the regression coefficients of the indicator variables. (When oil, gas, or dry wells are regressed separately, fewer indicator variables are needed since there are fewer well types involved in each regression).

Because the regression equation is in log form, estimates on it will be biased downwards. Multiplying the original estimates by the correction factor

$$(2)\quad \frac{\text{sum of actual costs for sample}}{\text{sum of estimated costs for sample}}$$

yields unbiased estimates.

PROCEDURE. Once the JAS sample data have been collected and verified, the regression estimates for each geographic area are made using equations (1) and (2). In some areas, oil, gas, and dry wells are combined in one equation. When the sample is large enough, a separate equation is used for each of these three well types. Inevitably, some non-sample wells fall outside the depth range of the sample. Since, statistically speaking, there is no reason to expect the regression estimates to be "reasonable" for these depths (or area) where there is no sample, some of these costs must be estimated independently based on costs in similar areas or on previous year's data. This was necessary for approximately .4 percent of all unreported wells in 1989.

1 An indicator variable takes on the value 1 if the observation is a member of a certain class, and a value of 0 if it is not. In the above equation, the nine indicator variables identify whether a well is one of the ten well types (for example, exploratory oil single completion, development gas multiple completion, exploratory dry, and so on). The tenth well type is identified when all indicator variables are 0.